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The new council met for the first time on June 7. The first business was the appointment of officers. Mr. John Williams was unanimously elected to the presidency, Mr. William Dawson Savage was chosen as vice-president, and Mr. Cornelius Hanbury treasurer.—When the appointment of committees came on Mr. Schacht made a strong effort to change the time fixed for the Library, Museum and Laboratory Committee from the middle of the month to the day preceding the council meetings, so as to enable several country members to serve on it. This proposal was opposed chiefly by Mr. Sandford, who stated that that committee served as a sort of vice-council, and such an alteration would seriously interfere with general business, as it would leave the management of affairs without guidance for a whole month (all the other committees, except those which meet *pro re nata*, being already arranged for the day preceding the council meetings). To this Mr. Schacht replied that the House Committee might undertake this work, and exchange periods with the committee under discussion. A division was taken and Mr. Schacht's proposal was defeated by 11 votes to 6. It was then proposed by Mr. Brown, and seconded by Mr. Atkins, that the society should pay the travelling expenses of not more than three country members, in order that they might serve on this committee. This motion was also defeated by a considerable majority.—Mr. Samuel Lloyd Stacey was elected by ballot to fill the vacancy occasioned by the resignation of Mr. Baynes.—Compliments were paid to Messrs. Hills and Bottle for their services as president and vice-president during the past three years.—A letter from Professor Redwood was brought forward, in which

an advance in the tariff of fees for attendance at his lectures was suggested. This was referred to the Library, Museum and Laboratory Committee.—Mr. Hampson proposed, and Mr. Shaw seconded, that Mr. Barnard S. Proctor, of Newcastle-on-Tyne, should be invited to deliver the Inaugural Sessional Address in October next. This was carried, and the secretary was instructed to convey the council's wish to Mr. Proctor.—A resolution of sympathy with the family of the late Mr. Brew, of Brighton, who had at one time been a member of the council, was passed on the motion of the president, seconded by Mr. Savage.—Mr. Robbins proposed that four new annuitants on the Benevolent Fund should be elected in October next, making the total number 24. Mr. Bottle seconded this, remarking that it had been found that the more liberally they dispensed the fund the better it was supported. This being agreed to, Mr. Shaw moved a resolution, the object of which was to prevent canvassing on the part of any of the candidates. Mr. Hampson seconded the motion, which was also supported by Messrs. Hanbury and Betty. Messrs. Owen, Robbins, Williams, and Savage saw difficulties in the way, and the motion was ultimately lost. Mr. Shaw announced that he would bring the matter forward again next month.—The president said the council had received petitions from some provincial towns asking the council to consider the formation of a kind of trade protection society. Mr. Atkins had also received a circular to this effect from a gentleman whom he did not know, but who had accompanied it with a very sensible letter. The subject was referred to the Parliamentary committee.

Her Majesty's Commissioners have lately announced their intention of realising from their land possessions at South Kensington a considerable sum—it is said about 350,000l.—and applying it to those objects which promote science and art, as soon as the funds can be obtained.

A popular lecture on "Dalton's Instruments, and what he did with them," was delivered by Dr. Roscoe at the Exhibition of Scientific Instruments on June 3. Professor Roscoe showed especially with what disadvantageous apparatus Dalton made some of his grand discoveries, such as the law of chemical combination in multiple proportion, the experiments on the diffusion of gases, the luminosity of flame, and others. His first rain gauge was a wine bottle with a tin funnel 7 inches in diameter. His mercurial trough was an old halfpenny earthenware cup. His weights were made of sheet lead, which on being tested before being sent to the exhibition were found to be fairly accurate.

The Glasgow Chemists' and Druggists' Association has lost an intelligent and highly esteemed coadjutor by the death of Mr. Thomas Dryden Moffatt, one of its earliest presidents, at the early age of 40. Mr. Moffatt had exchanged the profession of pharmacy for medicine, but he never ceased to manifest a lively interest in all that pertained to his earlier occupation.

Two so-called "Civil Service" Co-operative Stores, the Devon and the Yorksbire, situated respectively at Exeter and Leeds, have collapsed during the past month.

The President of the Pharmaceutical Society, at the annual meeting, referred to the two cases of prosecution under the Apothecaries' Act mentioned in last month's CHEMIST AND DRUGGIST, and said the persons there alluded to were not really chemists and druggists. What Mr. Hills meant we are not sure of, but we find one of them, S. T. Rowe, on the register.

The Committee of the Hull Chemists' Association has done a very useful work lately in addressing circulars to the members

explaining exactly the law in relation to the sale of methylated spirit, methylated finish, and quinine wine. In view of the activity displayed at present by the officers of the Inland Revenue it will do no harm to reiterate the statements we have made on former occasions that methylated spirit may only be sold by persons licensed for that purpose, under a penalty of 50*l*. The license only costs 10*s*. a year. Methylated finish may be sold by any one, but if it be found to contain less than the prescribed quantity of gum (3 ozs. to the gallon) the seller is liable to a penalty of 200*l*. The use of methylated spirit in the manufacture of any article capable of being used either wholly or partially as a beverage or internally as a medicine is prohibited under a penalty of 100*l*.

It is stated that Dr. Edward Cator Seaton succeeds Mr. Simon as medical officer of the Local Government Board, but the Privy Council does not contemplate appointing a medical officer, and proposes to refer questions coming before it, which may need a medical reference, to the Medical Department of the Local Government Board. Dr. Seaton has hitherto been associated with Mr. Simon in public work, his duties having been confined chiefly to the superintendence of vaccination.

At the annual *séance* of the Société de Pharmacie of Paris M. Bussy brought forward a project for the formation of a Scientific Union of French Pharmaciens, to hold a session once a year in Paris, similar to our Pharmaceutical Conference.

Readers will notice at the end of our "Exchange Column" a new section, which has been added at the request of some of our subscribers. The object is to offer to chemists a means of asking from their *confrères* throughout the country for items of information concerning the whereabouts of missing friends, vagrant customers, and lost acquaintances. If this is really a want the feature will, no doubt, live; if not, let it be anathema. At any rate, we hope the trade generally will be polite enough to show such courtesy to inquiring brother members as to secure for them the information they seek.

The Lord Chancellor has introduced into the House of Lords a new Bankruptcy Bill. This is based on the recommendations of a select committee which the Lord Chancellor himself appointed a year ago, and it endeavours to meet the difficulty now existing of practically placing all power in the hands of the trustees. The proposals made seem to us somewhat inadequate, and hardly likely to bring about any very radical reform. It proposes that the five largest creditors shall form a preliminary committee, that the creditors shall elect a committee of inspection (which would be likely to be the one already in existence), and that this committee of inspection shall select the trustee. All estates are to be wound up within two years, and all accounts are to be audited. The last two clauses are good minor improvements, but the earlier and chief ones, which are intended to rectify the present abuse of the office of trustee, will hardly prove workable. The largest creditors of small estates will scarcely care to act, and the trustee will, it is to be feared, get the complete control, as he has now, and will prefer his own interest to that of the creditors.

The annual meeting of the Pharmaceutical Society was held on May 17, but was extremely brief and quiet. The election of councillors resulted in the return of Mr. S. R. Atkins, of Salisbury, in place of Mr. Sutton, who declined to serve again. Mr. Stacey (principal of Corbyn's business) has since been chosen by the council itself to replace Mr. Baynes, who resigned.

Mr. William Goulding, a chemist in a large way of business at Cork, has been returned to Parliament as member for that city.

The arrangements for the conference of chemists and druggists at Birmingham are now in the hands of an influential

committee, and the meeting will certainly be held during the second week of July, probably on the 11th and 12th of the month.

The question as to whether the sale of milk of sulphur as such can be prohibited by the Sale of Food and Drugs Act is likely to come before the court of Queen's Bench on appeal from the decision of the Birmingham stipendiary magistrate, which is at present adverse to the trade.

We are compelled to hold over till next month our report of Dr. Thudicum's third and last lecture on the life and labours of Liebig.

Our special correspondent at Philadelphia sends an interesting account of the Centennial Exhibition there from a pharmacist's point of view. There is no doubt, from his letter, of the advantage which Germany holds over this country in the production of fine chemicals, although some of our chief houses in that line have done gallantly.

THE PHARMACEUTICAL EXAMINERS IN SCOTLAND.

AS a companion to the group of English pharmaceutical examiners which we published last month, we have now the pleasure of producing a similar group representing the gentlemen who discharge the same important functions for pharmacy in Scotland. Mr. Mackay, whose portrait we have included in this collection, is the secretary to the board, and does not, we believe, act as an examiner. Another of the faces here represented is now no more seen among his companions. Death has lately removed the chairman of the board, Mr. William Tait, to the infinite regret of all those who had for so long worked with him in this or in other departments of activity. The vacancy occasioned by the death of Mr. Tait is not likely to be filled up during the current year. All the Scottish examiners, with the exceptions of Mr. Borland, of Kilmarnock, and Mr. Kinninmont, of Glasgow, reside in Edinburgh or its immediate neighbourhood.

There is a general sort of impression, confirmed in some degree by statistics, that the Scottish board of examiners is less formidable than its English prototype. Of course both bodies adopt a precisely similar system of examination and estimation, and the Scotchmen claim that the higher percentage of success notable in their results is due to the superior average quality of the candidates; in other words, they assert that the Scotch mind is generally better fitted for pharmacy than is that of England. Without venturing on such debateable ground as is thus opened, we may remark that there has been manifested in Scotland more than in England a desire to receive recruits into the trade, and this feeling, provoked as it often is by a serious want of assistants, can hardly fail to have been reflected by the examiners, although unpremeditated by themselves. We are also inclined to think that the English board includes a few men to whom their own peculiar hobby seems the very backbone of society, and we are not without suspicion that men quite competent to conduct pharmacies with the utmost credit occasionally find themselves rejected because they have in their answers trod upon the favourite corn of some rather too fastidious theorist. The two boards, therefore, according to us, need only to draw each a little towards the other in order to hit the happy medium.

The system of having two examining boards, each having power to grant the same degree, is somewhat anomalous, if not unique. It has worked fairly well in this case, thanks to the good sense of both sides concerned; but it is not by any means desirable that the formation of examining boards should be multiplied, as has been advocated.



THE PHARMACEUTICAL BOARD OF EXAMINERS (SCOTLAND).



THE THIRTY-FIFTH ANNUAL MEETING OF THE PHARMACEUTICAL SOCIETY.

HELD AT BLOOMSBURY SQUARE, MAY 18, 1876.

THE annual meetings of the Pharmaceutical Society have now quite settled down into that normal condition of dulness from which a few years ago they were aroused for a little while by the co-operative and poisons battles. The thirty-fifth annual meeting will hardly leave behind any historical reminiscence, and we should simply abuse our readers' patience if we reported the proceedings at any length.

The attendance was very thin, and it soon appeared that of the few who had come out that morning, no one had any very distinct combative intentions. This appearance of harmony may be due to the talented conduct of the late council, or it may be attributable to a settled conviction that the trade has little enough to hope for from this society. But certainly it does not arise from a feeling of unalloyed satisfaction with the history of the last pharmaceutical year. The report presented by the council opens with a melancholy comment on the continued decrease of "pharmaceutical chemists," a rank which, it says, it is "the natural and proper ambition" of chemists to attain. This same council last July deliberately abandoned the defence of the title which they profess to set so much store by, when it was seized by the Irish Secretary, Sir M. H. Beach. According to the report, the Irish Pharmacy Bill contained originally two unjust features: one was the reciprocity clause, and the other was the employment of the hitherto protected title, "pharmaceutical chemist." So far the report is correct; but there is one sentence in reference to this matter which might have been expressed with greater exactness. The report says:—"The Government remained determined to pass the bill, but the council eventually secured the withdrawal of the reciprocity clause." Those who remember what took place will perhaps concur that the history of that event might be more accurately summarised in such a sentence as this:—The Government, finding their reciprocity clause distasteful to the chemists of Great Britain, withdrew it, *whereupon* the Law and Parliamentary Committee of the Pharmaceutical Council resolved to withdraw all further opposition; the Government, assuming that the council represented the society, therefore "remained determined" to pass the rest of the bill. Very many influential members of the Pharmaceutical Society were astonished and annoyed to observe the weakness manifested by their council on that occasion, and we suppose it was a conviction of the inutility of worrying about spilt milk that enabled the authors of the report to pass the slightly varnished narrative we have quoted unchallenged. The seriously diminished balance which this year's financial statement indicates might also have caused a little anxious inquiry if the members of the society were truly interested in its welfare; but that point was not once alluded to.

The president, Mr. T. H. Hills, read a short address, in which he urged attendance at evening meetings, early closing, apprentices to be 16, if not 17, years of age, and to have passed their Preliminary examination before entering upon shop work, and students to endeavour to get six or twelve months at some good school of pharmacy. A few words in reference to the Hanbury Memorial concluded this laconic address. The report was taken as read, and then Mr. Atkins, of Salisbury, who was the favourite candidate for the seat on the council vacated by Mr. Sutton's retirement, took his preliminary canter by moving the adoption of the said report. Mr. Atkins is an interesting speaker, fluent, facile, and thoughtful, though perhaps a little too much given to wax earnest and serious over matters where earnestness and seriousness are almost out of place. The crime, for instance, of those chemists who "are indifferent to the Pharmaceutical Society of Great Britain" was enlarged upon so solemnly as to cause the few who had virtuously attended that meeting to feel themselves of the very elect, and perhaps too exaltedly thankful that they were not as those unworthy druggists described by Mr. Atkins, "who do not come to our meetings, who scarcely read our literature, who complain of us, and yet do not put their shoulders to the wheel and try to do it better." Mr. Atkins was the chief advocate of the separation of the Preliminary examination from the duties of the pharmaceutical examiners, and the conduct of it by the College of Preceptors. This has been done, and still Mr.

Atkins is not happy. He desires, if we understand him rightly, to see chemists eliminated in every way, even as local secretaries, from participation in the examination proceedings. This may be the perfection of theory, but it seems to be a matter rather worthy of a Laputan Council than one deserving the attention of men with actual duties facing them. Mr. Atkins spoke a good word for patent medicines, or at least a section of them, the trade in which he by no means wished to see abolished; and in alluding to the relations of pharmacists with the medical profession, he remarked that on occasionally reading the medical journals he had felt grieved to observe that pharmacists do not receive that full accord of generous sympathy which they deserve. It would be difficult to express in gentler language the obvious fact that the medical press never misses a chance of reviling and injuring the chemist and druggist.

Mr. Humpage seconded the adoption of the report, and at once marched against the Irish Pharmacy Act. He considered that the pharmaceutical chemists of this country had good ground for complaint when it was proposed to bring together under one title two classes of men who had obtained that title with very different qualifications. And he thought moreover that the case was so clear that it really required only a little effort to prevent it. But the speaker adroitly avoided the application of his remark to "the gentlemen who do us the honour to be elected as our council." Such a work as that of defending the pharmaceutical title he thought would very properly come within the province of the suggested Defence Association. This led Mr. Humpage to the subject of the medical attack on counter prescribing, which he treated with spirit and discrimination. He would denounce as much as any one any attempts to sail under the medical flag, but he would maintain the just rights of the trade and defend them. And should there be occasion to defend such interests he would not be sorry to see some money voted by the society for the purpose. He maintained that chemists had a full and complete right to recommend medicines behind their counter to customers with indigestion or similar disorders. The society he had referred to might do good work which the council of the Pharmaceutical Society had not time to do.

Mr. Mee, of Highbury, next raised a point of law, notice of which had been given to the council, who had brought their solicitor to the meeting to reply. Mr. Mee questioned whether the society had any legal right to take any fees or portions of fees from persons offering themselves for examination but not passing, and consequently not securing registration. If such right existed, Mr. Mee asked to be referred to the clause in the Act or the bye-laws authorising such a claim.

In reply, the solicitor (Mr. Flux) remarked that clause 7 of the Pharmacy Act contained the word "examination" as well as "registration." It says that "upon every such examination and registration as aforesaid such fees shall be payable as shall from time to time be fixed and determined by any bye-law to be made in accordance with the Pharmacy Act." Mr. Flux added that in his opinion the bye-laws thus made are sufficient to justify the council in requiring the payment of the fees they insist upon. Mr. Mee was, however, not convinced. The clause said "examination *and* registration," and he considered that the society was only justified in demanding the fee when the double event came off. Mr. Flux seemed a little piqued that his legal dictum should be questioned, and said it was hardly convenient to discuss the legal question in that meeting. He said there was a prior charter, a prior Act, and a long course of dealing, all of which, according to him, gave the society the right of charging for the examination. There was also the practice of similar examining bodies. It was a pity Mr. Flux had not taken the little extra trouble of preparing himself with the precise bye-law authorising the charges.

Mr. Kent followed with a short speech urging a more liberal and more general subscription on the part of the trade to the Benevolent Fund.

There were no more speakers, and the president made a brief reply to Mr. Humpage, assuring him that the council "does all that it possibly can do." If Mr. Humpage and the outside world generally knew all they would find that the council could not act more than it does. The persons prosecuted under the Apothecaries' Act mentioned in last month's CHEMIST AND DRUGGIST were not chemists at all.* Mr. Humpage disclaimed any idea of finding fault, and admired the taste of the council in avoiding dirty water as far as possible. Mr. Andrews

* One of them is on the Register, anyway.—ED. C. & D.

moved and Mr. Randall seconded a vote of thanks to the president and council, which was acknowledged by Mr. Bottle. This ended the proceedings.

ELECTION OF COUNCIL.

The voting papers were examined by scrutineers on May 19, and the subjoined result was discovered. There were sixteen candidates for fourteen seats. In all 1,132 voting papers were returned, 62 of which were either received too late or disallowed for informality. The votes were thus divided:—

Hills	1,022	Frazer	902
Schacht	1,009	Williams	895
Bottle	1,003	Cracknell	875
Sandford	994	Atkins	718
Greenish	992	Owen	712
Mackay	988		
Savage	964	Baldon	669
Atherton	954	Ronch	539
Shaw	920		

Mr. S. R. Atkins, of Salisbury, is the only new member of the council elected, he taking the place vacated by Mr. Sutton, of Norwich.

PHARMACEUTICAL FESTIVITIES.

THE Pharmaceutical Dinner—the fifth year of celebration—was held this year at the London Tavern, on May 17, under the presidency of Mr. Thomas Hyde Hills, president of the Pharmaceutical Society. It was the last public dinner, we believe, held under that famous roof, as the noted hostelry is now in course of transformation into a bank.

The toasts were not numerous, but they elicited some fairly good speeches. The chairman made the necessary formal remarks concerning the Queen and the Prince of Wales, but he always utters these with such a true Tory unction as to convince his audience of the thorough genuineness of his loyalty. In the usual complimentary strain Mr. Bottle proposed "The Medical Profession," a toast which was acknowledged by Mr. Wm. Adams, president of the Medical Society of London. This gentleman's speech can scarcely be said to have risen above the level of average after-dinner orations. Mr. Ernest Hart proposed the next toast, "The Prosperity of the Pharmaceutical Society of Great Britain." Mr. Hart's speech was singularly neat in its phraseology and appropriate in its allusions. A little growl from one end of the room met Mr. Hart's expression of hope that cordiality might continue between the two professions in dealing with the questions of prescribing and dispensing which lay on the borderland, and warned him that even in the genteel assembly he was addressing there was nothing like sympathy with the monstrous policy of extermination which has been promised by the Medical Defence Association, and approved of by the *British Medical Journal*.

Mr. Hills replied to the toast. Next Mr. Atkins, of Salisbury, very fluently summarised the labours of the British Pharmaceutical Conference, concluding with a high compliment to the president of that association, Professor Redwood. Professor Redwood replied with unexpected brevity, and then Mr. W. S. Brown, of Manchester, proposed "The Visitors," adopting a strain of humour which caught the fancy of his audience, and made his speech the best relished one of the evening. In the course of his remarks, Mr. Brown spoke of the pharmaceutical press, and it would be simply churlish if this reporter failed to acknowledge the generous reference to THE CHEMIST AND DRUGGIST which was introduced. The speaker believed in these dinners, and saw no reason why we should strive to emulate the lean and starved apothecary sketched by Shakespeare, nor why chemists should devote themselves exclusively to repairing the consequences of excesses at the table, and not indulge in the disease a little themselves. The toast was coupled with the name of Dr. Arthur Leared, who briefly replied.

The speeches were interspersed with singing by a few professionals, who certainly had no reason to complain of a lack of appreciation.

A conversazione was held the next evening at the South Kensington Museum, and was attended by about 2,600 ladies and gentlemen. The expense of this conversazione, we understand, has considerably increased, and this year will probably prove a severe strain on the society's diminished balance. We should think it desirable to consider whether the somewhat artificial enjoyment offered at such a soirée is under present circumstances worth the price which has to be paid for it.

THE INTERNATIONAL EXHIBITION AT PHILADELPHIA, U.S.

(By OUR SPECIAL CORRESPONDENT.)

THE readers of THE CHEMIST AND DRUGGIST have all, no doubt, watched with interest the course of events relating to the grand International Exhibition now being held in Philadelphia, U.S. This undertaking, conceived with the view of celebrating the centennial anniversary of American Independence, has met with the cordial and hearty sympathy and co-operation of all the nations of note on the face of good mother earth. And Britannia has made many friends here by her course of overlooking the little difficulty of one hundred years ago, in now striking hands with her wayward daughter Columbia, and in helping to make the universal jubilee of 1876 such a success that she may not be ashamed of the little sprite that was so troublesome in the past, but may still proudly claim her as her offspring.

America reciprocates the good feeling, and in the distribution of space in the Exhibition accords to Great Britain one of the principal posts of honour. It may be best before entering upon an account of the exhibits to briefly outline a description of the buildings, with their position.

The ground selected for the site of the exhibition is in the beautiful Fairmount Park, on the western bank of the Schuylkill River, on a plateau, 90 feet above the river, heretofore known as Lansdowne.

The grounds are enclosed—the fencing being pierced in 13 suitable places for entrance. Inside the grounds there have been erected about 150 buildings, the dimensions of the principal of these being as follows:—

	Feet	Feet	Acres
Main Building	1,880	by 464	= 21.47
Memorial Hall	210	" 365	= 1.75
Machinery Hall	1,402	" 360	= 14
Horticultural Hall	350	" 160	
Agricultural Hall	540	" 820	

The amount of ground covered by the buildings is about 60 acres, and compares in this respect as follows with former exhibitions:—

	Acres
New York	4.2
Munich	4.4
England, 1851	18.6
Paris, 1855	22.1
London, 1862	23.9
Paris, 1867	31
Vienna, 1874	56.5
Philadelphia, 1876 (buildings)	60

The enclosed space devoted to various other purposes of the exhibition—i.e., ornamental gardening, erection of special buildings, artificial lakes, fountains, &c., amounts in all to 256 acres.

The wisdom displayed in the general plan of the exhibition has already been proved in the readiness with which the visitor may reach a particular point that he desires in any of the buildings, everything having been so systematically arranged that a special object of interest may be easily found, and this has been done without the sacrifice of that sense of immensity which is usually so attractive, at least to the average American mind.

By the time this letter is in the hands of your readers all of the preparations will have been completed, and every nation represented will have emerged from the chaos which has enshrouded it for the last few months and will be ready to engage in the friendly contest for supremacy. Before entering on the detailed description of the various chemical and pharmaceutical exhibits, let me digress this much and give you the general impression of the leading excelling points in the principal nations as they appear at first view:—Germany excels in rare chemicals, Great Britain in textile fabrics and ceramics, particularly in pottery, France in musical instruments, bijouterie, &c., Italy in statuary, United States in machinery, Brazil in her rich woods, Spain in wines and products of the grape; Japan, cabinet work and bronzes; Canada, furs; Switzerland in her watches; Sweden in iron and steel; Norway, fishing tackle and the famous cod liver oil; Chili, mineral productions; Peru, barks yielding quinine; Australia in wool, and China in grotesque carvings, &c.

Then, again, there are other nations who have exhibited such a variety that no specially excelling series of objects meet the

eye. Of such a character are the products displayed by Belgium, the Netherlands, Australia, &c.

As it will be utterly impossible to crowd into the space assigned to this sketch anything like a complete history of the objects of interest in the chemical and drug way, I will consider in this letter only some of the most prominent in the English, French, and German sections.

The space allotted to Great Britain and her colonies is situated about the middle of the main building, and occupies nearly one-fifth of the whole building. One-half of this space is given to Great Britain and India. The marked contrast in the style and character of the cases for exhibiting the English goods as compared with those of other countries is apparent. Some very fine show-cases have been put up, the woodwork being universally stained black, with rich ornamentation in some instances; this colour is unquestionably to be preferred as affording the best contrast to the contents. Some of the most prominent case makers in London are represented, such as Sage, Drew, and Jeffries. Probably the most costly exhibition is that of the fine metal work of Elkington & Co., who have secured the best point in the whole Exhibition—one-fourth of the central Rotunda. These goods are shown in a space of not more than 200 square feet, and are valued at not less than \$500,000 in gold.

The largest single space allotted in the British section is to Doulton & Watts, of Lambeth, who have various stands aggregating 3,000 square feet. They have many goods of chemical and pharmaceutical interest made of their celebrated ware, such as stills, worms, percolators, funnels, &c. This firm have set up in the centre of the Art Gallery the famous group of America, which is universally admired, and it is remarkable that of its thousand parts not one has been injured by transportation, which speaks well for the care in packing.

One of the first objects after leaving the Doulton exhibit is the splendid display of perfumery of J. & E. Atkinson, of Bond Street, London. Of course most prominently stands out the extract of white rose, which is now known all over the world, and there are hundreds of other perfumes and articles for the toilet which are deserving of more notice than can be afforded at present. Lynch & Co. show a very tastefully arranged collection in an upright case of perfumery, druggists' sundries, combs, brushes, &c. The Crown Perfumery Company also have a very attractive case full of their specialities, showing the different steps in the processes used for making combs, the horn in the rough, polished, then marked out, and finally sawed, and then the perfect comb when finished.

The interest which is most largely represented amongst the chemicals is that of the caustic alkali and soda manufactures. Chance Brothers & Co., near Birmingham; the Soho Alkali Company (Limited), Widnes, Lancashire; Gaskell, Deacon & Co., Widnes, Lancashire; Greenbank Alkali Company (Limited), St. Helen's, Lancashire; P. Hutchinson & Co., Widnes, Lancashire; Liver Alkali Works Company, Liverpool; J. Muspratt & Sons, Liverpool; Runcorn Soap and Alkali Company (Limited), Liverpool; Newcastle Chemical Works (Limited), all show their various products to good advantage. Probably the most noticeable to druggists among these is the chlorate of potassa of the Greenbank Alkali Company, whose trade mark, by the way, that of a pierced heart, is rather striking and suggestive, if not original. The peculiar beauty of these crystals lies in their iridescence, flashing from their surfaces all the colours of the rainbow.

Chance Brothers & Co.'s bicarbonate of soda is well known here, and duly appreciated. J. Muspratt & Sons also show some beautiful chlorate of potash crystals.

In this group is to be seen a rather unpretentious case containing Jennings' magnesia. To the drug trade of the United States this brand is as a household word.

Passing to the general chemicals and pharmaceuticals, we come to the case of T. Morsen & Son. Several novelties are here shown, such as the pilocarpine, isolated from jaborandi, and exhibited by the discoverer, A. W. Gerrard, as also the nitrate of the same alkaloid. In addition they exhibit a beautiful specimen of chrysophanic acid, a good display of suppositories, fine-looking rhubarb of British growth, aconitia in crystals, gallic acid, very white, pure pepsin, aloin and glacial phosphoric acid.

The old and well-known house of Allen & Hanburys, who are represented here by their Mr. Frederick J. Hanbury, show their cod-liver oil in the various styles in which it is sent out by the establishment, and their specialty jujubes, which have met

with such a large sale in England. The goods are tastefully arranged.

Evans, Lescher & Evans show an extensive collection of gums, oils, lime juice, concentrated infusions, selected powders, &c. This collection is the only one that we noticed which had been poorly arranged, many of the chemicals being in little flat glass dishes, placed out of sight so high up that a ladder is needed to examine them.

J. C. & J. Field have a case devoted to transparent and other varieties of their toilet soaps.

The most attractive soap exhibit in this section is that of the old firm of C. & F. Pears. Low, Son & Haydon, Rimmel and Price's Patent Candle Company are well represented.

F. Grace Calvert & Co. show the substance which has been, and no doubt always will be, associated with the name of the eminent founder of the house, viz., carbolic acid, in all its various forms, and also beautiful crystallised specimens of picric acid and the sulpho-carbolates.

T. & H. Smith & Co., of Edinburgh, have most likely the rarest and most valuable collection of alkaloids and their salts in the whole exhibition, particularly those obtained from opium. The most striking object is the muriate of thebaia, which has been crystallised in a large dish about 18 inches in diameter, and this is undoubtedly the largest and finest specimen of this salt ever exhibited.

Muriate of cryptopia is a beautiful and singular salt; this particular sample, from a first view, looks like a mushroom under a glass case, the top having suffered somewhat from the effects of the light, but by examining the sides they are found to be composed of very perfect characteristic crystals.

The most perfect crystals of aloin ever exhibited are here to be seen, also papaverina, muriate of papaverina, sulphate of codeia, apomorphia in crystals, morphia, conhydrin, narcotin, and resin of jalap and scammony, both in the form of a coarse white powder.

A modest mahogany case labelled Glasgow Apothecaries' Company exhibits Lister's specialities—carbolic gauze, protective plaster of oiled silk carbolated, ligatures of carbolic catgut.

Pharmacy would undoubtedly be more largely represented were it not for the protective tariff in force here, which in the case of fine chemicals and pharmaceuticals amounts almost to prohibition.

Germany gives unusual prominence to the chemical portion of her section. H. Trommsdorf, of Erfurt, leads with a rich collection of rare and beautiful chemicals. Umbelliferone, asarone, taurine, ononine, dulcete, ostruthine, rubidium, alum, and arbutine being most noticeable.

C. & T. Kohlbaum, Berlin, have some remarkable products. Artificial vanillin, no doubt prepared by the process of Tiemann & Haarmann, from coniferin ($C_{16}H_{22}O_8 + 2H_2O$) obtained from pinus sylvestris. By the oxidation of this substance by means of sulphuric acid and acid chromate of potassium, vanillin may be obtained. They also show a large collection of alcohol products, seventy-five in number, tolnol, toluene, &c.

Friedr. Jobst, Stuttgart, exhibits quinia and morphia salts, the latter being obtained from opium grown in Germany, and yielding as much as 15 per cent. of morphia.

Schimmel & Co., of Leipzig, have some very fine essential oils on exhibition, a large specimen of concrete oil of orris being most noticeable; also oil of matico, calamus, Roman chamomile, cascarilla, and many others.

Brueckner, Lampe & Co.'s selection is a good one. Not only does it embrace very finely powdered gums, roots, flowers, and seeds, but also a valuable collection of essential oils, thymol and camphors, menthen camphor, peppermint oil, crystals, &c.

Dr. F. Von Heyden shows salicylic acid and its preparations. Soame & Co. their chloral hydrate, which is well known here, chloroform, pure acids, and calcium and potassium salts.

Dr. F. Wilhelm, Rendwitz, shows artificial oil of bitter almonds, oil of niobe, artificial benzoic acid, chloride of benzol.

Dr. L. C. Marquart exhibits acids. Johann Cleaver, salicylic acid dentrificer.

Gœdecke & Co. a beautiful exhibit of essential oils and ethers.

Heinrich Hensel, essential oils and artificial fruit essences. The latter still have some use in this country, but the popular feeling is now strongly against them.

The most interesting pharmaceutical exhibit is that of J. Bernhardt, of Leipzig. This collection of selected flowers,

leaves, &c., is commendable not only for the quality of the goods displayed, but for the skill and patience that has evidently been bestowed in their arrangement. In a subsequent letter I hope to enter into a more lengthy description of it.

F. A. Wolff & Son, of Heilbrunn, show a complete apparatus for pharmaceutical processes requiring heat, similar in construction to the old Beindorf, but much improved. It combines, with the still and condenser, apparatus for evaporating, stirring, and fanning, for making decoctions and infusions, crucible operations, &c.

Lipowsky, of Heidelberg, exhibits hospital and ambulance appliances. Stautein & Becker, of Berlin, amber.

Friederich Bayer & Co., anilino and alizarine compounds.

Leander & Seidloff, of Dresden, dye and paint colours.

Arthur Gysø, paint colours. Hirsch & Merzenich, dye and paint colours.

Joh. Chr. Bløduer & Son exhibit soap and toilet articles.

Kronheim & Co., of Berlin, glues and chemicals.

G. F. Heye & Co., Berlin, oils, xanthate, and sulphocarbato of potassa.

Fischer & Schmidt, Berlin, and Ernest Mack, each have some fine gelatine to show. Bartels & Kogemann have glue. Leopold Casella & Co., Frankfort, have a case filled with beautiful aniline colours, whilst the Nurnberg Ultramarine Works rivet the attention of beholders to the pyramidal case, which is built up with large blocks of their well-known ultramarine.

The French are backward in arranging their section, but their pharmaceutical exhibit is nearly ready. If the cases were unlabelled and the origin unknown, it would be a novice indeed who could not identify the work of our Gallic brethren. We have here no lavish display of rare alkaloids or heavy chemicals, no nauseous or bitter drugs so carefully and tastefully arranged that one is surprised that beauty could be wrung from objects having such unpleasant associations. French skill spends itself instead in masking and concealing that which is distasteful. Take, for instance, their dragées, pearls, and capsules, which they show largely, and are such marvels of pharmaceutical ingenuity. What a contrast they afford when compared with the therapeutic weapons of a century ago!

But let us glance at their cases. First we see "Grimault & Co." over the top of a case made of a hard black wood ornamented with gold stripes. On the upper shelf are large bottles containing pancreatic emulsion; below are essence of jaborandi and elixir, pure pepsin, and pastilles, finely finished and stamped, pearls which have been formed in a mould, and are entirely full of liquid, thus meeting the objection to the capsules formerly used, that the size was unnecessarily large, on account of their mode of manufacture, which left an air space inside the capsule as waste room.

Their chloroform pearls are opaque, however. This firm make the oval capsules now without the air space in them.

H. Valoy, Dijon, have capsules and pearls which they claim to be extra soluble, the envelope being made of a mixture of gum and sugar.

Ch. Torchon, Paris, has a beautiful exhibit of pearls of tar, chloroform, turpentine, castor oil, ethereal extract valerian, ethereal tincture assafoetida, sulphate of quinine, chloral hydrate, &c., sugar-coated granules, stamped with miniature letters; chloral in various forms, and a small bottle labelled "Pétrole," which has been obtained by synthesis. The label explains itself—

"Reaction de l'acide carbonique et de la vapeur d'eau sur le sulphure de fer."

The antiseptic properties of chloral are represented by a dead animal in one corner of the case in a good state of preservation, he having suffered from an injection of this now indispensable chemical.

Adjoining this A. Boude & Fils, Marseilles, have a pretty exhibition of sulphur, crude, sublimed, and in rolls.

But I shall have to postpone a further description of this section until my next sketch.

The judges of awards have just met for organisation. The list contains the names of many men of eminence, who are well known both here and abroad. The American judges in Class III. (chemistry and pharmacy with the apparatus) are:—

Professor C. A. Joy, New York.

Professor F. A. Genth, University of Pennsylvania, Philadelphia, Pa.

Professor J. Lawrence Smith, Louisville, Ky.

Professor C. F. Chandler, New York.

Professor J. W. Mallet, University of Virginia, Charlottesville, Va.

For Class XXIV. (instruments of medicine, surgery, &c.):—

Dr. C. B. White, New Orleans, La.

Dr. J. H. Thompson, Washington, D.C.

The list of judges selected from Great Britain is as follows:—

Mr. Isaac Lowthian Bell, M.P., C.E., Great Britain.

Mr. Isaac Watts, Great Britain.

Mr. W. W. Hulse, C.E., Great Britain.

Mr. Henry Mitchell, Great Britain.

Sir Sidney H. Waterlow, Bart., M.P., Great Britain.

Hon. J. Brian, Great Britain.

Mr. D. MacHardy, Great Britain.

Major W. H. Noble, R.A., Great Britain.

Captain Douglas Galton, R.E., C.B., F.R.S., Great Britain.

Colonel F. A. Rich, R.E., Great Britain.

Mr. W. H. Barlow, Great Britain.

Mr. John Anderson, LL.D., C.E., Great Britain.

Mr. Fred. Paget, Great Britain.

Mr. John Coleman, Great Britain.

Sir William Thompson, LL.D., D.C.L., F.R.S., Great Britain.

Sir John Hawkshaw, C.E., F.R.S., Great Britain.

Mr. Charles West Cope, R.E., Great Britain.

Mr. Peter Graham, Great Britain.

Sir Charles Reed, Great Britain.

These gentlemen will soon commence their delicate and thankless labours. A new feature in granting awards will be put into execution, styled "the American system." The peculiarity about this is that every recommendation for an award must be accompanied by a distinct written statement, containing the reasons in full why the premium should be granted, and they are expected to state why preference should be conceded to one line of goods over another if there happen to be two of the same kind competing. This will be a great advantage to many exhibitors, but it makes the position of judge a very irksome one.

Before closing this letter, I am reminded to notify all chemists and pharmacists, or those interested in either branches of science, who will attend the exhibition to call at the reception room of the Philadelphia College of Pharmacy, No. 145 North 10th Street, where they will be sure to be heartily welcomed, and assisted in securing lodgings, information, &c.

An actuary is always present during the day, whose duty it is to receive visitors, and every facility is afforded that can be practically to make the visitor from abroad feel at home.

R.

NOTES FROM RUSSIA.

[BY A SPECIAL CORRESPONDENT.]

The Pharmacopœia of Russia is based mainly on that of Germany, and the practice of pharmacy all over the empire is under the supervision of the so-called Medical Council at St. Petersburg, a government institution constituted of a president, three actual members, six consulting members of the first grade, fifteen of the second, and six of the third. All questions relating to the practice of medicine and the dispensing of medicaments must be referred to this council, whose decision is final. The pharmaceutical business in Russia, as in Germany, enjoys special rights, amounting to a monopoly; only a certain number of chemists' shops, and those only in towns, can be established within a certain radius, and the law entirely forbids the sale of medicines in other establishments, with the exception of a few proprietary articles, which we shall presently enumerate. The trade is confined almost exclusively to the vending of medicines properly so-called, the business depending mainly upon the number of prescriptions made up. A special feature to be noted is that, like the importers of chemicals and drugs at St. Petersburg, the pharmaceutical chemists are almost without exception all Germans from the Baltic provinces, or descendants of that nation. They have to undergo a strict examination to qualify them for their profession, and as a body are deemed intelligent, steady, and industrious. Latterly, in view of the inconvenience occasioned by the limitation of accommodation to the public, and following the corresponding movement in Germany, the question has been raised in the Russian press, and seriously discussed, of altering the existing state of things by throwing the trade open, and placing it on the same footing as other

businesses, establishing in fact free trade in pharmacy. Whether this plan will be entertained by the Government remains to be seen—the Medical Council is rather conservative in its principles. It would appear, however, that some alterations in the interest of the population at large are really called for, as will be seen from the following data:—There were in Russia in 1875, to a population of 82,000,000 in all, only 1,491 pharmaceutical chemists' shops; the number of prescriptions made up in the whole of the Empire in that year was 9,111,718, the returns being 6,378,237 roubles (2s. 8d. per rouble), which indicates an expenditure by each inhabitant of 8 copecs (4d.). This sum is rather unequally divided, for while in St. Petersburg it amounts to 8,750 copecs per head of the population, in the provinces of Ufa and Tobolsk it is 1 copec. The trade of druggist in Russia is quite distinct from that of pharmaceutical chemist; the former may sell drugs but not in the form of prepared medicines, with the exception of the articles mentioned below. They sell also chemicals in the same manner, and deal in perfumery and all kinds of toilet requisites. The remedies and patent medicines of English manufacture admitted into Russia are contained in a special list drawn up by the Medical Council of the Ministry of the Interior on agreement with the Ministry of Finance. They are divided into articles which can be sold both by apothecaries and druggists, and those that can be sold by chemists only. To the former belong Burchell's anodyne necklaces, cayenne lozenges, camomile drops, coltsfoot lozenges, essence of peppermint, Edwards' crystallised lemon juice, German corn plaster, Henry's calcined magnesia, Moxon's aperient magnesia, magnesia lozenges, paregoric lozenges, Edwards' salt of lemon, seidlitz powders, soda powders, ginger lozenges, ginger seeds, Glass's magnesia. To the second category belong ipecacuanha lozenges, Sterry's opodeldoc, Sterry's poor man's plaster. The following note is appended to this list in the Russian "Tariff":—"If other prepared medicines should be imported not enumerated in the above list, although they may be known, they may be admitted only on agreement of the Ministry of Finance with the Medical Council." We have only given the English articles mentioned in the list. It contains in the first category thirty-four other remedies, mostly French, besides cod liver oil; in the second, forty-four remedies entirely of French production. Among the pharmaceutical articles exported from Russia, in small quantities, may be mentioned worm seed, quince seed, aniseed, caraway seed, liquorice wood, rhubarb, lycopodium, camomile, linden tree blossom. To these may be added mustard, insect powder from the Caucasus, and leeches. Isinglass is exported in large quantities.

Chemists in Russia sell, among other things, artificial and natural mineral waters. The manufacture of aerated and artificial waters has been conducted for the last forty years, but it was subject until recently to many restrictions on the part of the Medical Department, besides being the sole monopoly of the Guild of Apothecaries. At present these restrictions have been removed, and large quantities of aerated waters are manufactured in various parts of Russia, the principal articles being soda water and seltzer. The consumption of aerated and artificial mineral waters is increasing annually; the yearly returns of this branch of trade are estimated at present at 1,500,000 roubles. It is, perhaps, not generally known that Russia possesses some of the finest natural mineral waters in the world. The springs are situated at Piatigorsk, in the Caucasus, and present several groups conveniently situated within a comparatively small area, and representing all the principal waters of Germany, France, &c., the Esentouk group being the most celebrated. One of the most noted springs in this group is No. 17, which, from its chemical composition, may be classed with the waters of Ems, Selter, Salzburg, and Lugazovich. In comparing it with Ems water it is found that one bottle of Esentouk water is equal to three bottles of Ems water, the advantage at the same time being on the side of the former as regards the contents of particles of iodine and bromine. The Caucasian mineral springs at Piatigorsk are owned by a company, which provides accommodation for visitors, the season lasting from May 13 to October 13. Besides the Caucasian there are other localities in Russia noted for their mineral waters. In the province of Grodno there are the Drouskinskz springs, and in Novgorod the Staro-Russ mineral waters.

At the several late exhibitions held in Russia it was demonstrated that the manufacture of stearine has reached a high degree of perfection, and no diminution in the consumption is noticed since the introduction of American mineral oils. On the contrary, the competition of the latter, the importation of which

into Russia increases every year, has only cheapened the manufacture. Nearly all the stearine works have now substituted for the process formerly in vogue of working the tallow with lime (saponification) the more modern method of manipulating it with sulphuric acid, and distilling the fatty acids with superheated steam. The number of soap works is also steadily increasing in Russia, both as regards the arrangement of the works and the character of their products. These may be divided into two groups. To the first belong those where soap-boiling is combined with the manufacture of stearine, and which employ in the production liquid fats obtained in pressing the tallow for preparing stearine; to the other belong works at which nothing but soap is made, tallow being used for that purpose, or tallow mixed with coconut oil, or with resin.

Among the most noteworthy chemical products, the manufacture of which is being introduced into Russia, we may mention piroxiline, photoxiline, and collodion. The photoxiline, manufactured by Mr. Mann, has gained a reputation for its excellent quality, not only in Russia, but abroad. The manufacture of dye-stuffs is closely connected with the preparation of chemicals; there are works which prepare in large quantities madder dyo, extract of madder, indigo, carmine, &c. The raw madder is imported in great quantities from Asia, and especially from the Caucasus. The Caucasian madder, obtained from Derbendt, is now preferred to the French, and is much used by all the manufacturers. Oak bark (*Quercitron*) is now generally supplanted in the province of Vladimir by the peel of onions. An extract of spruce, introduced by Mr. L. Raboueck, is much used in dyeing, where gallnut and blue logwood were formerly required. Sugar of lead is also being produced in Russia on an increased scale every year, but only one-third of the total quantity consumed is manufactured at home; the remainder is imported.

An official paper, issued by the Russian Department of Trade, thus reviews certain other branches of manufacture:—"The manufacture of cosmetics and fancy perfumery may be regarded as a branch of the chemical production, but it is very seldom met with in conjunction with the manufacture of chemicals. The late exhibitions demonstrate that this business is chiefly carried on in the capitals, where all kinds of cosmetics are prepared quite equal in quality to those manufactured in France and England. It is to be regretted, says this document, that our manufacturers have not yet sufficient confidence in their own merits, and are in the habit of selling their goods with foreign labels." The writer is evidently more struck with the modesty of his countrymen than vexed by their roguery. The report continues:—"Those engaged in this branch of industry have disregarded one of the principal conditions of success, by neglecting the cultivation at home of the aromatic plants necessary for the oils and essences required. The experiments yet made in this direction have been only on a small scale, but there are, no doubt, many localities in Russia which offer, as regards both climate and soil, all the necessary conditions for the cultivation on a large scale of the rose, jessamine, violet, &c."

Among the producers of toilet soaps in Russia should be noticed the Tsarskoye Soap Company, which has an establishment at Kazau, where egg oil is manufactured to the extent of 700 pouds yearly. They use it for preparing their egg oil soap, and for this they require an annual supply of 8,000,000 eggs, which yield besides about 1,400 pouds of albumen. Egg oil is used for its wonderful healing properties. It is obtained from the yolks, which are boiled hard. One yolk will yield about two tablespoensful of oil.

(To be continued.)

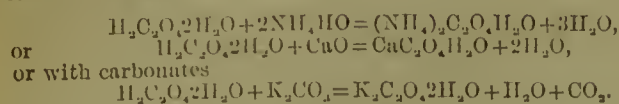
THE PHARMACOPŒIA VOLUMETRIC PROCESSES.

(Continued from page 164).

2. ANALYSIS BY SATURATION.—*Alkalimetry*.—Oxalic Acid, $\text{H}_2\text{C}_2\text{O}_4 \cdot 2\text{H}_2\text{O} = 126$.

All processes under this system are based on the fact that potass, soda, ammonia, lime, &c., combine directly with acids—the carbonates also of the same substances being readily decomposed by the stronger acids. The neutral salts which the foregoing bases form with the strong acids have no action upon litmus (the indicator under this division), whilst the slightest excess of either acid or alkali, as the case may be, immediately changes its colour. As acids, sulphuric and hydrochloric are

both frequently employed, but the Pharmacopœia properly confines the estimations to oxalic acid, seeing it is an acid, not only stable in its character, but one which can also be weighed with greater accuracy, and stored without much risk of change. With oxalic acid the various decompositions might be represented as follows—



The standard solution is made by dissolving 630 grains of oxalic acid (freed from oxalates of potassium and calcium and other impurities frequently present in the commercial acid by recrystallisation) in 10,000 grains distilled water. Each 1,000-grain measure of this solution contains half an equivalent in grains of oxalic acid, and will therefore neutralise, as shown in the above equation, one equivalent in grains of a caustic alkali, KHO or NaHO, &c., or half an equivalent in grains of an alkaline carbonate, K_2CO_3 or Na_2CO_3 , &c. In operating upon alkalies a few drops of litmus are added to the solution to be neutralised, and the standard acid gradually added till the litmus changes to a purple red, when the acid must be added drop by drop till the colour gradually assumes a bright yellowish red, indicative of the presence of free oxalic acid in the solution. Some little experience is necessary, especially in the case of the alkaline carbonates, to hit the exact conclusion of the reaction, and therefore various methods have been devised to check and allow for the addition of excess of acid. A little observation and experience, however, will enable anyone to determine the precise moment when the wine-red colour of the litmus due to the presence of free carbonic acid changes to the light red produced by oxalic acid, with sufficient exactitude to render any further approximation or estimation unnecessary. The following table contains all the official substances estimated under this process:—

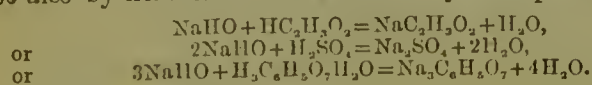
Table IV.

OXALIC ACID, $\text{H}_2\text{C}_2\text{O}_4 \cdot 2\text{H}_2\text{O} = 126$.

Substance	Formula	Molecular Weight	Quantity to be weighed so that each 10-grain Division shall equal 1 per cent. of substance	Number of Grain Divisions required for the same quantity of substance to form B. P. Standard
			Grains	Per Cent.
Ammonia Carb. ..	$\text{N}_4\text{H}_{10}\text{C}_6\text{O}_8$	236	59	1000=purity
Borax	$\text{Na}_2\text{B}_4\text{O}_{10}\text{H}_2\text{O}$	191	191	1000=purity
Liq. Ammonia ..	NH_3	17	17	100=10%
" Calcis .. Fort.	NH_3	17	17	325=32.5%
" Sacc. ..	CaO	56	280	12.7=12.7%
" Plumb. Subacet.	CaO	56	28	15.4=15.4%
" Potass ..	$\text{Pb}_2\text{C}_4\text{H}_6\text{O}_5$	548	137	268=26.8%
" Eff. ..	KHO	56	56	58.3=5.8%
" Soda ..	KHCO_3	100	1000	34.2=3.4%
" Eff. ..	NaHO	40	40	41.0=4.1%
" Soda ..	NaHCO_3	84	840	28.0=2.8%
Plumb. Acet. ..	$\{\text{Pb}(\text{C}_2\text{H}_3\text{O}_2)_2\}$	379	190	1000=purity
Potass. Caustic ..	KHO	56	56	900=90.0%
" Bicarb. ..	KHCO_2	100	100	1000=purity
" Carb. ..	K_2CO_3	138	69	814=81.4%
" Citras ..	$\text{K}_2\text{C}_6\text{H}_5\text{O}_7$	306	102	1000=purity
" Tart. ..	$\text{K}_2\text{C}_4\text{H}_4\text{O}_6$	226	113	1000=purity
" Tart. Acid ..	KHCO_3	188	188	1000=purity
Soda, Caustic ..	NaHO	40	40	900=90.0%
" Tartrat. ..	$\{\text{NaKC}_4\text{H}_4\text{O}_6\}$	282	141	1000=purity
" Bicarb. ..	NaHCO_3	84	84	1000=purity
" Carb. ..	$\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$	286	143	960=96.0%

To ascertain the percentage of any substance estimated, read the grain divisions required to produce saturation, and place the decimal point one figure to the left. In the case of liq. calcis, liq. soda eff., and liq. potass eff., ten times the quantity having been taken, the decimal point must be placed two figures to the left. To calculate the amount in grains of any substance estimated, proceed as in Table I.

Acidimetry.—Hydrate of sodium, $\text{NaHO} = 40$. The strength of acids are determined by a process essentially the same with the one just considered, so that there is no need for repetition. A measured quantity of hydrate of sodium saturates a known weight of acid, the point of saturation being indicated in this case also by litmus. The reactions may be expressed thus—



The following table, it will be noticed, facilitates the estimation not only of all official acids included under this system,

but also, where it is at all necessary, of the corresponding anhydrous acid:—

Table V.

HYDRATE OF SODIUM 40.

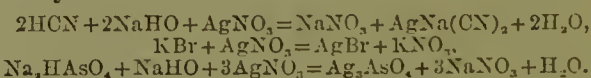
Substance	Formula	Molecular Weight	Quantity to be weighed so that each 10-grain Division shall equal 1 per cent. of substance	Number of Grain Divisions required for the same quantity of substance to form B. P. Standard
			Grains	Per Cent.
Acetum	$\text{HC}_2\text{H}_3\text{O}_2$	60	60	54.1=54.1%
	$\text{C}_4\text{H}_6\text{O}_5$	102	51	46.0=4.6%
Acetic Acid ..	$\text{HC}_2\text{H}_3\text{O}_2$	60	60	33.1=33.1%
	$\text{C}_4\text{H}_6\text{O}_5$	102	51	28.0=28.0%
Acetic Acid Dil. ..	$\text{HC}_2\text{H}_3\text{O}_2$	60	60	42.6=4.26%
	$\text{C}_4\text{H}_6\text{O}_5$	102	51	36.2=3.62%
Acetic Acid Glacial	$\text{HC}_2\text{H}_3\text{O}_2$	60	60	990=99%
	$\text{C}_4\text{H}_6\text{O}_5$	102	51	841=84%
Citric Acid ..	$\text{H}_3\text{C}_6\text{H}_5\text{O}_7 \cdot \text{H}_2\text{O}$	210	70	1000=purity
Hydrochloric Acid	HCl	36.5	36.5	318=31.8%
Hyd. Acid Dil. ..	HCl	36.5	36.5	165=16.5%
Nitric Acid ..	HNO_3	63	63	700=70%
	N_2O_5	108	54	600=60%
Nitric Acid Dil. ..	HNO_3	63	63	174=17.4%
	N_2O_5	108	54	149=14.9%
Nit. Hyd. Acid Dil.	—	—	383	1000=purity
Sulphuric Acid. ..	H_2SO_4	98	49	968=96.8%
	SO_3	80	40	790=79.0%
Sulph. Acid Aro. ..	H_2SO_4	98	49	133=13.3%
	SO_3	80	40	108=10.8%
Sulph. Acid Dil. ..	H_2SO_4	98	49	136=13.6%
	SO_3	80	40	111=11.1%
Tartaric Acid ..	$\text{H}_2\text{C}_4\text{H}_4\text{O}_6$	150	75	1000=purity

To ascertain the percentage of any acid estimated, or the amount in grains, proceed as in previous table.

3. ANALYSIS BY PRECIPITATION. — Precipitant, nitrate of silver, $\text{AgNO}_3 = 170$.

Although the substances estimated under this system are limited by the Pharmacopœia the principle admits of extensive application. In every case, however, they have this feature in common, namely, that the substance to be estimated forms an insoluble compound with the standard solution, and so far at least as all the three official substances included under this division are concerned the commencement or the cessation of the formation of this precipitate indicates the conclusion of the reaction. In estimating the strength of hydrocyanic acid, for example, advantage is taken of the fact that in the presence of solution of soda (or other alkaline solution) no permanent precipitate is formed until the acid has all combined to form a soluble double salt of cyanide of sodium and silver, NaCN , AgCN . With the other two substances a simple decomposition takes place, in which the precipitate is at once formed, and, therefore, immediately it ceases to form the reaction is with them finished, and the strength can at once be estimated.

The following equations will show the various decompositions under this system—



From this it follows that two equivalents of hydrocyanic acid and one equivalent of bromide of potassium will decompose one equivalent of nitrate of silver, whilst one equivalent of arseniate of sodium (dry) will decompose three equivalents of silver. This is shown in the following table:—

Table VI.

NITRATE OF SILVER, $\text{AgNO} = 170_3$.

Substance	Formula	Molecular Weight	Quantity to be weighed so that each 10-grain Division shall equal 1 per cent. of substance	Number of Grain Divisions required for the same quantity of substance to form B. P. Standard
			Grains	Per Cent.
Hydrocyanic Acid ..	2HCN	54	5.4	20=2%
Bromide of Potassium	KBr	119	11.9	1000=purity
Arseniate of Sodium	Na_2HASO_4	186	6.2	1000=purity

To ascertain the percentage or amount in grains of any substance estimated, proceed as in previous table. In the case of hydrocyanic acid ten times the quantity (54 grains) should be taken, in which case read ten-grain divisions required for decomposition, and place the decimal point two figures to the left.

In concluding this series of tables the writer, from many inquiries made of him regarding the text-book most suitable for beginners, may be excused for suggesting the use of Sutton's invaluable work on "Volumetric Analysis"—a new edition of which will shortly, it is understood, appear. It is pre-eminently fitted for the pharmaceutical student, and it is right to state that the conception of the foregoing tables have in a great measure been due not only to its teaching, but also to its utility.

Scientific Notes from Foreign Sources.

THE ASSERTED PRESENCE OF TANNIN IN GENTIAN ROOT.*

By JOHN M. MAISCH.

THE author was induced to make experiments on gentian root by a statement by Mr. E. L. Patch, in a paper recently read before the Massachusetts College of Pharmacy, to the effect that "he found tannin in the gentian, contrary to the usual statement of works on materia medica." This gentleman seems to have worked with compound tincture of gentian: this preparation contains orange peel, and Mr. Patch, according to the author, has overlooked the fact that the white parenchyma of orange peel is coloured deep black by solution of a ferric salt. Be this as it may, after the citation of quite an array of investigations, from 1815 down to the present time, which seemed to have established the freedom of gentian from tannin, the author describes his own experiments, which show the previous investigations to be correct in their conclusions, and Mr. Patch to be in error. A cold aqueous infusion was not disturbed by gelatine solution until it had stood for some hours, when a scant light-coloured precipitate made its appearance; this, after washing, was merely tinged light brown by dilute ferric solution. The infusion strikes a dark-reddish brown colour with ferric chloride, but no precipitate forms on standing. If previously diluted with water the infusion scarcely suffers darkening. The infusion to which some alcohol had been added to preserve it was treated with a fragment of fresh hide for 24 hours; the behaviour of the liquid to ferric chloride was unchanged. A tincture prepared from root which had previously been nearly exhausted with water was next tried with ferric chloride. A deep brown-green colour, and, if sufficiently concentrated, a precipitate also, resulted; on diluting with water the mixture became muddy from separation of resin and fat—with alcohol it remained perfectly clear and did not change colour. The author refers the colour reactions produced with ferric chloride or other ferric salts to gentianic or gentisic acid, and believes that his results show the absence of tannin in any form.

LACTOPEPTIN.

The following formula for this preparation is copied from the *American Journal of Pharmacy*, March, 1876, p. 134:—

Sugar of milk	..	..	..	20 ounces
Pepsine, pure	..	..	..	4 "
Pancreatine, pure	..	..	..	3 "
Ptyaline or diastase	..	..	..	1 drachm
Lactic acid	..	..	..	2½ fluid drachms
Hydrochloric acid	..	..	..	2½ "
Powder and mix.				

PURE IODIDE OF POTASSIUM.†

If an aqueous solution of potassium iodide containing iodate is treated with sulphuretted hydrogen the iodate is reduced, some sulphuric acid being formed at the same time, so that the iodide may contain 1 to 2 per cent. of sulphate, which may be decomposed by barium iodide. A simple and more interesting method of purification consists, according to G. Pellagri, in shaking a warm solution of the impure iodide with iron filings, which produces complete reduction of the iodate, no iron being dissolved, nor is iodine found in the ferric oxide formed. In a concentrated solution the ferric oxide will ultimately exert an oxidising influence upon the iodide, and the complete reduction of the iodate is only possible if the liquid is filtered and repeatedly treated with fresh iron filings. Complete reduction

of the iodate is effected in the cold by immersing in the liquid an iron and a copper plate, and forming them into a galvanic element by uniting them, outside of the liquid, with a wire; the iron only becomes oxidised, but no less of iodine or contamination with iron or copper takes place. Potassium bromate is likewise promptly reduced by the iron-copper couple, but the chlorate is but incompletely acted upon. Powdered zinc acts at first energetically upon potassium iodate, but does not effect complete reduction.

THE PREPARATION OF SUPPOSITORIES.

The following remarks were suggested to a correspondent of the *Journal de Pharmacie d'Alsace-Lorraine* by a paper on the above subject which appeared in the *Repertoire de Pharmacie*, t. iii., p. 142:—"The use of medicaments under the form of suppositories often constitutes a very valuable resource for the physician. He has recourse to it not only when he has to deal with ailments which have their seat in the lower parts of the body, but also to produce general effects when the stomach and intestines are greatly debilitated and cannot support medicines, or when the patient has an unconquerable disgust for the remedy, or when injections are not applicable. It is therefore necessary for the pharmacist not merely to prepare conical suppositories, which shall be irreproachable as to form, but to second as far as possible the intentions of the physician; to place at his service a medicament uniform as to dose, of a form easy of introduction into the rectum, and which when introduced fuses easily, so that the enclosed remedy is liberated and in a condition to be absorbed by the mucous membrane of the large intestine. Of all the fat excipients that we know cacao butter assuredly is the best for the preparation of suppositories; it is unctuous, hard, fuses at 30° C., i.e., six or seven degrees below the temperature of the human body, and is neither acid nor alkaline. If fat be added, the hardness indispensable for introduction is lost; if wax, the fusing point is too elevated, and the suppository remains without effect; if, finally, the cacao butter is mixed with wax and lard one is working in the dark to some extent, and it is easy to miss the necessary proportions for a suppository which shall melt at the right temperature. Cacao butter, although a fatty body, nevertheless permits, on account of its consistency, of the incorporation of vegetable and saline powders and extracts by simple admixture. Want of care in mixing the remedy so that each suppository shall contain an exact dose is a frequent reason for the disuse of these medicaments by physicians. For example, the pharmacist melts the necessary quantity of cacao butter, adds to it extract of opium, stirs them together, and pours into moulds. The difference in density between the extract and the butter is sufficient to cause a partial separation, so that the quantity of extract varies for each suppository. Further, the extract collects at the points and is liable to be removed by the least jar. A rational method would be to mix the remedy with the cacao butter in a mortar, and to divide the mixture into the necessary portions by weighing. The paper moulds are arranged in slightly damp sand, and each weighed portion is separately warmed in a small spouted capsule over a spirit lamp: as soon as the mass is in the slightest degree fused it is transferred to one of the moulds, the form of which it assumes. On cooling, the suppository is found to be perfectly homogeneous."

ON THE PRESERVATION OF CERTAIN PERISHABLE SUBSTANCES BY MEANS OF IRON OR MERCURY.*

By M. MASSIÉ.

For three years the author has made use of bars of forged iron weighing about 1½ kilogramme for the preservation of barley, rice, bran, wheat, &c., in white wood boxes holding 150 litres. Though it is difficult to explain the action of the metal, it is none the less an excellent preservative. Metallic mercury produces similar results, and in certain cases is more efficacious than iron. That he might be in possession of certain data on the efficacy of the two metals, the author experimented by placing in glass vessels, holding one litre, the following substances, viz., barley, rice, bran, meal, wheat, ergot of rye, cantharides and white biscuit. Three flasks were filled with each: in one a piece of iron (80 grammes) was placed; in the second mercury (5 grammes); to the third no addition was made. With one exception the vessels were not closed, and were allowed

* *Amer. Journ. Pharm.*, March, 1876, p. 119.

† *Amer. Journ. Pharm.*, March, 1876, p. 131.

* *Repert. de Pharm.*, April, 1876, p. 198.

stand in an ordinary well lighted room from May 7, 1875, till December 2 in the same year. On the latter date they were examined, when it was found that the sound specimens without addition had in almost every instance suffered deterioration to a greater or less extent, and in two or three weevils had made their appearance; the same specimens with iron or mercury were unaltered, save the biscuit with iron, in which a few holes could be counted. The specimens containing weevils originally did not seem to be affected by iron, but mercury seems to have had a decided effect in checking the multiplication of the insects, if it did not destroy them altogether. The experiments having most interest for pharmacists are those on ergot and cantharides, both of which were decidedly benefited by the presence of either of the metals, particularly, as with the former, when kept in a closed vessel.

DETECTION OF PHOSPHORUS IN ANIMAL TISSUES.*

THE forensically important question—after how long phosphorus may be detected in the tissues, as, for example, the liver, Professor Fischer and Apotheker Müller have endeavoured to answer by experiments on guinea pigs. According to the *Keitel. für Ger. Med.*, in which the experiments are reported, each animal was dosed with exactly .023 gramme of phosphorus, and a few hours after death was buried in the earth. In two of them, which were examined after four and eight weeks respectively, unoxidised phosphorus was present; the inner organs being removed and tested by Mitscherlich's process. For quantitative estimation the distillate was oxidised with nitric acid, and the phosphoric acid formed was determined as magnesium pyro-phosphate. The quantity of the latter indicated from .0075 to .01 gramme of phosphorus in the first case, and in the second from .0045 to .006 gramme, the difference between which and the original quantity of .023 must have suffered oxidation in the body. The third guinea pig, which lay 12 weeks in the earth, gave no indication of unoxidised phosphorus; it was, however, ascertained by the method of Dussard and Blontot that part of the phosphorus still remained in the condition of phosphoreous acid. In the fifth and last animal examined, which was exhumed at the end of 15 weeks, neither free phosphorus nor its lower oxidation compounds were detected, but only phosphoric acid. To the presence of the latter no forensic importance can be attached, as it is a constituent of all normal tissues.

ALBUMINATE OF MERCURY FOR HYPODERMIC USE.†

AFTER prolonged investigation, with a view to obtain a compound of mercury suitable for hypodermic injection, Professor Bamberger has decided in favour of the albuminate, and finds that chloride of sodium is a good solvent of the salt, and does not affect its action. For the preparation of this soluble mercuric albuminate white of egg serves best, and the general process is to free this first of all from membrane, then dilute with water, filter, precipitate with mercuric chloride solution, dissolve the precipitate immediately in sodium chloride without filtering, and finally filter. The process may be varied by adding first the 10 or 20 per cent. sodium chloride solution, and then the 5 per cent. sublimate solution: in this case no precipitate at all is formed, the soluble albuminate being produced at once.

The preparation of a perfectly clear and stable solution of mercuric albuminate depends on the use of a perfectly clear solution of albumen, and on the avoiding any excess of the latter in the finished solution. The first condition is fulfilled by mixing the albumen with 3 or 4 volumes of water, then straining through cloth, and afterwards filtering through paper; in this way the filtration is completed in a short time, and, what is most important, the filtrate is, as a rule, perfectly clear. Should slight turbidity remain, it may be removed without detriment by adding a few drops of glycerine, shaking frequently, standing for 10 or 12 hours, and then again passing through a previously moistened filter. To fulfil the second condition, it is necessary to add to the albumen solution thus obtained exactly so much corrosive sublimate as will take into combination all the albumen, but by no means more than this. Dr. Hamburger suggests the use of sodium carbonate for test,

as in Liebig's method for determining urea, to indicate the least excess of mercuric chloride.

The quantity of sodium chloride required for the solution is, in like manner, accurately determined by means of a small previously prepared sample, into which the solution of sodium salt is run from a burette, until only a slight turbidity remains, which does not disappear on shaking. After the addition of the mercury and sodium salts, the solution, even if it remains clear, is yet allowed to stand two days, at the end of which period it is filtered and filled into small bottles, which are kept in a cool place. The quantity of mercury in the solution is, of course, proportional to the corrosive sublimate added: this proportion may be varied by dilution.

BUTYL-CHLORAL (CROTON-CHLORAL).*

DR. OSCAR LIEBREICH, in a notice on this body in which he acquiesces in the statement by Krœmar and Pinner that its composition and relations are more definitively expressed by the first of the two names given above, says that in consideration of the difficult solubility of butyl-chloral, he first tried alcohol as a solvent. In a freshly prepared solution containing 1 gramme of alcohol for each gramme of substance, the action of the former is not prejudicial, but if employed in larger proportions, or if the solution is allowed to stand a long time, a change occurs which seriously impairs the action of the solution, and this change is referable to the alcohol. Dr. Liebreich, therefore, recommends the following prescription:—

Butyl-Chloral Hydrate	..	..	..	5 to 10 grammes
Glycerine	..	..	..	20 grammes
Distilled Water..	..	..	..	130 grammes

D.S. To be taken after shaking.

The patient takes one tablespoonful, after five minutes a second, after ten minutes a third. It is always well to proceed at first with small doses, so as to avoid the inception of a hypnotic quantity. In the evening, 1, 2, or 3 grammes may be given, according to the constitution of the patient, so as to act at once as a narcotic. In any case the prescription may of course be modified according to the intensity of the case and the idiosyncrasy of the individual. Butyl-chloral gives immediate relief in cases of pain proceeding from the teeth. The remedy is best taken just after meals, and should be followed by a copious drink of water.

TEST PAPERS.†

THE known fact that many violet vegetable colouring matters used for the detection of the alkalinity or acidity of liquids are in general much more sensitive than litmus tincture is affirmed anew by G. Pellagri (*Gazetta Chimica*). Potash solution to $\frac{1}{500000}$ th, which no longer reacted with litmus tincture, gave a very evident reaction with the colouring matters of the violet, iris, or verbena, even with $\frac{1}{12000}$ th. Professor Schiff, of Florence, recommends mallow paper as extraordinarily sensitive. It gives an undoubted alkaline reaction with aniline which is free from ammonia. The vegetable extracts are, however, not very stable, even in the dark, and exposed to diffuse daylight are soon decolourised.

THE EXTRACTION OF VEGETABLE JUICES BY MEANS OF ETHER.

BY M. LEGRIFF.‡

IN a note presented to the Société de Pharmacie, the author gives a *résumé* of his studies on the extraction of the vegetable juices. The vegetable tissue is mechanically divided and submitted to the direct action of ether in a special apparatus, without the intervention of any exterior re-agent. After contact for some time the ether becomes coloured intensely green, and below it a dense aqueous layer is formed of a brownish colour. The upper ethereal layer contains all the chlorophyll, with the associated fatty matter, whilst the aqueous layer holds in solution all the extractive principles except cellulose. Whether soluble or not these principles are expelled in the vegetable fluids by pressure of the ether, and in the condition in which they circulate in the channels whence they have been chased. The investigation has extended over a considerable period, with a uniformity of result which leads M. Legriff to the belief that

* *Pharm. Zeitung*, April 15, 1876, p. 260.

† *Pharm. Post*, May, 1876, p. 163, from *Wein. Med. Woch.*, Nos. 11 and 14.

* *Pharm. Post*, May, 1876, p. 158.

† *Pharm. Zeitung*, April 1, 1876, p. 228.

‡ *Repertoire de Pharmacie*, April 25, 1876, p. 223.

the process when applied to vegetable tissues gathered in the full performance of their functions removes the active principles without alteration, and leaves only a skeleton almost devoid of all traces of these principles. Vegetable juices obtained by this process preserve generally their characteristic colour and odour. An experiment on a single leaf will show the truth of these statements, and may be made as follows. An ordinary test tube is perforated with about a dozen holes distributed over three-fourths of its length from the bottom; into this a rolled-up leaf is introduced, and the tube closed by a cork fitted with a wire loop. This tube is introduced into a cylindrical test glass on foot, containing ether, which covers the holes in the tube when this is suspended by the wire loop to the under surface of the stopper of the test glass. The ether gradually becomes green, of a deeper and deeper shade; the vegetable juices escape in brownish drops by the perforations, and collect at the bottom of the test glass. The leaf, pale and decolourised, floats in an ethereal solution of chlorophyll, and all the vegetable principles are deposited or dissolved in the lower aqueous layer. In this process the function of the ether seems to be two-fold, of solution on the one hand, of expulsion on the other. To the whole process the author gives the name *diætheralysis*. By *diætheralysis* one may count upon obtaining vegetable extracts in a small volume, and in a state of purity hitherto unknown.

RAIZ DEL INDICO.*

According to R. F. G. Vœlcker, the above name is given by the natives of Mexico to a plant growing along the Rio Grande, the root of which they use as an astringent. The root is tubercular, the tubercles being fusiform, one to two inches thick, and two to three inches long. A dark line separates the outer layer from the yellowish-brown interior, which exhibits in the transverse section dark-coloured spots, arranged in radiating lines. Vœlcker has not been able to obtain flowers for examination, and hence has not succeeded in classifying the plant; but his observations lead him to infer that it belongs to Polygenaceæ. The leaves are petiolate, stipular, and entire; about a foot long by two to three inches wide; oblanceolate, acute, smooth, shining, juicy, and light green. The powdered root yielded to ether a *wax* and *chrysophanic acid*. By subsequent treatment with strong alcohol a tincture was obtained which, on evaporation to dryness, was separated by alcohol and ether into *aporetin*, *phæoretin*, and *erythroretin*; 23.16 per cent. of *tannin* was found, and the presence of *glucose*, *albumen*, *gum*, *starch*, and *calcium oxalate* was ascertained. The leaves of the plant were found to contain the *malate* and *oxalate* of calcium.

REMOVAL OF SILVER STAINS FROM CLOTH.†

The following method is particularly successful with clothes that had been previously washed. The stained piece is immersed for a few minutes in a concentrated solution of chloride of copper, and then rubbed over the part with a crystal of sodium hyposulphite previously dipped into ammonia which has been diluted with an equal bulk of water. If the copper chloride be quite neutral, the colour of the fabric will not be affected. This process may, if necessary, be repeated several times.

TESTING VEGETABLE TISSUES FOR ALKALOIDS.‡

As a general method, which may be used with advantage in place of that of Stas, for examining vegetable powders for alkaloids, Cazeneuve recommends one which is based on the combined use of slaked lime and ether. The vegetable powder is moistened and mixed with half its weight of slaked lime. Part of this mixture is dried by simple exposure to the air, and the remainder on a water bath. The vegeto-calcareous powders are then tested separately, with ether or with benzine. The ethereal liquid is allowed to evaporate spontaneously, and the residue is examined under the microscope, particularly as to its solubility in acidulated water.

* Amer. Journ. of Pharm., February, 1876, p. 49.

† Amer. Journ. Pharm., February, 1876, p. 65.

‡ Journ. de Pharm. et de Chimie, March, 1876, p. 201.

MEDICAL CLEANINGS.



VIVISECTION

OUR new members have been appointed to the General Medical Council, which held its annual session in London from May 24 to June 5. The seats rendered vacant by death and resignation were those of Drs. Parkes, Begbie, Sharpey, and Bennett. These were filled respectively by Mr. Teale, Mr. Lister, Mr. Simon, and Dr. Pitman. The three first-named are nominated by the Privy Council, and Dr. Pitman represents the London College of Physicians. One of the most interesting subjects of discussion, and the one which occupied most time, related to Lord Carnarvon's Vivisection Bill. Mr. Lister and Sir Wm. Gull led the opposition to this bill, and the latter, with several other members, expressed considerable indignation that the Government should have presumed to legislate on such a matter without first consulting the Council. Sir Dominic Corrigan at first energetically opposed any interference with the bill at all, on the ground that it could not be said to come within the scope of the Council's duties. If they went beyond their sphere into such matters there was no telling where they might stop. The game laws, shoeing horses, ringing pig's noses, and other processes in which pain might be inflicted, would come within their province. This theory, however, was unanimously over-ruled, on the ground that it was one of the duties of the Council to take into consideration the course of study of medical students. A committee was therefore appointed, which drew up an elaborate report, with the direct object of rendering the bill as harmless to investigators as possible. Dr. Rolleston alone seemed to approve of the adoption of any legislation at all. It was said by others that if the liberty of inflicting pain was abused at all, it was only to a microscopic degree; but Dr. Rolleston said even microscopic organisms were capable of producing great mischief. Mr. Lister believed that the pain inflicted on pheasants in a single day's shooting was greater than that caused by vivisection in the British Islands in a whole year. Some remarks were made on the fact that no definition of "animal" was given in the bill, and it might therefore be possible to bring such organised bodies as sponges into the category. The idea of asking the Government to settle such an open question was, however, abandoned. Ultimately the report was presented to Government, and it was understood that the further progress of the bill was postponed in order to allow time for the consideration of the suggestions made by the Council.

* *

The best speech on the vivisection question was made by Sir Dominic Corrigan, in a last protest against the recognition by the council of the necessity of legislation. We take the report of it from the *Medical Times and Gazette*. Sir Dominic thought that if further legislation on cruelty to animals be deemed advisable it would be inconsistent and unjust to select the medical profession as alone meriting the infliction of penal enactments; but that the whole subject should be treated in regard to its relation to society at large. When medical men were selected and held up to odium, and charged with cruelty in scientific experiments, the best thing to do was to return blow for blow. He had, in a former speech, alluded to the manner in which oysters were treated by those who ate them. There was a practice of crimping salmon, which consisted of cutting the fish across from head to tail as soon as it was caught, and while it was yet alive. The proprietor of the fishery got twopence a pound more for crimped salmon than for uncrimped. A scientific gentleman had been called before the Royal Commission and questioned about the cutting off the tail of a rat. What did people do with regard to foxes' tails? When a fox was taken, his tail was cut off while the animal was alive, in order that it might retain the beauty of the hairs. Foxes' tails so obtained were worn by ladies on their dresses at country balls, and the lady who was able to show the greatest number of foxes' tails on her flounces was the belle of the evening; and yet that lady and her admirers would help to promote a bill in Parliament to charge scientific men with cruelty! Ostrich feathers were procured from ostrich farms, where the birds were reared for the purpose of supplying

feathers for ladies' dresses; but in order that the feathers might be made to retain their brilliancy they were plucked from the living bird. It was not very long since ladies' bonnets exhibited the golden wren, or the humming bird, or the comamou wren, as one of their ornaments. He had often been shocked by seeing his pretty pet bird, the golden wren, with its trustful eye, stuffed and appearing as an ornament on a lady's bonnet. These little creatures, which were our friends everywhere—in the hothouse, in the greenhouse, in the garden, and which one could not look at without loving—were trapped, and their skins were taken off while they were still alive, in order that they might retain their beauty. He had heard of ponies being branded while very young, in a part of Devonshire, in order to show the particular place from which they came; though, probably, the lady who bought the pony was not aware of the cruelty that had been inflicted upon it. Then there was the practice of cramming fowls and turkeys, which was followed in England and in France, and was in some places performed by machinery. The food was taken and thrust down the throat of the animal by machinery, and the result was that the animal lost for life the power of voluntary swallowing. It immediately suffered from paralysis of the œsophagus, and though it might go out among the cornfields it could never swallow a grain of wheat. He (Sir Dominic) had been to Hurlingham, and many of the members of Parliament who went to Hurlingham came to the House and attacked the doctors. He saw there a number of the finest ladies in the land. A box of pigeons was brought out, and the first thing done was to cut off the tails of the pigeons, to deprive them of the use of the tail as a lever which acted to them like the rudder of a ship. When they were let loose, having been deprived of their tails, they were obliged to fly straight forward, and there was, therefore, an exceedingly unfair advantage on the side of the sportsman, who was enabled thus to take a more deadly aim at the birds. He once saw a scene at Hurlingham which he should never forget, and nothing would induce him to go there again. A poor little pigeon was shot so that its bowels were hanging out, and while it was flying away in that condition it turned round to where the ladies were sitting, and the poor creature endeavoured to take shelter on the silk dress of a lady. There was a wonderful expression of sympathy; but what was it for? Not for the poor creature with its bowels hanging out, but for the lady's silk dress! Ladies such as this would come forward at dinner parties and accuse medical men of cruelty! Perhaps some gentlemen of the council were not acquainted with the manufacture of cocktailed horses. When they happened to be in fashion, no gentlemen ever went into the field without a cocktailed horse. The method of manufacture was that the intervertebral cartilages in the tail were cut through underneath until the vertebrae were separated. But then, if the tail was allowed to heal in its natural position, it would always afterwards hang down; and to avoid that result it was tied at the end and kept in an upright position until it healed. And thus the horse was kept in misery for about three weeks, in order that its fashionable rider might ride into the field upon a cocktailed horse! The men and women who indulged in the cruel practices which he had related came forward and used their influence with the House of Lords to get support to Lord Carnarvon's bill. He remembered, some time ago, a lady asking him to introduce a bill into Parliament to prevent costermongers using on their donkeys an instrument which she had taken from one of them. When the instrument was introduced he recognised it as a spur, such as was used by her own son. A short time ago there was a very foolish letter in the *Times* from Colonel Somerset. He (Sir Dominic) had observed that whenever there was anything foolish to be brought forward, there was a society formed to bring it forward, and at the head was the name of a colonel or a lord. This gentleman wrote to say that the practice of firing horses had been abolished among the horses under his authority. But what was the substitute? It was that red iodide of mercury was applied in place of the firing. The result of the application of the red iodide of mercury was a thousand times more painful than the application of firing. The pain of firing was over in ten minutes; but when red iodide of mercury was rubbed on the animal three weeks would not see the end of the pain.

The speaker went on to argue that if the bill were passed medical students would seek for vivisection experiments more eagerly than ever, simply because they were forbidden. This remark, he said, would particularly apply to Ireland.

We have often said that we have no sympathy whatever with the unfounded assumption of dignities, medical or other, employed with the object of deceiving the public, whether chemists, or men less fitted than they, are the offenders. But indignation almost gives place to amusement when we read the account of a conference of professedly unqualified practitioners, held a fortnight back at Hull, which we find reported in the *Students' Journal*. The president was a Mr. Woodhead, of Liverpool, who in his presidential address congratulated the association on having had a year of peace; not one of its members having been prosecuted "for what was called illegal practice," or disturbed by the law. Among the subjects discussed at the conference was that of the acceptance by registrars of deaths of death certificates issued by members of the association, and the general opinion expressed was that such certificates could not be legally refused. Some discussion took place on the question of titles. It was proposed that in all official documents the members of the "Reformed" School of Medicine should use the title of "Dr.;" but as the legality of this course was questioned, the subject dropped without any formal resolution being adopted.

A propos of this false assumption of protected titles, we notice that a man named Owen has been fined 5*l.* and costs at Carnarvon for having unlawfully, wilfully, and falsely used the name of surgeon, in signing a death certificate "Owen, surgeon." He had been in the service of a surgeon for three months, and used the title, he said, "as a matter of courtesy." The gentleman evidently considered that courtesy, like charity, began at home.

The *Students' Journal* informs us, likewise, that the noted "Professor" Sturman, who has for a long time dispensed foreign diplomas to ambitious Britishers for pecuniary consideration, seems to have withdrawn from that line of business. His residence is no longer dignified with the style and title of "Packington College" which once glorified it, but is now devoted to the sale of guns and ammunition. A card with the legend "Sturman, gun maker, established 1820," indicates that the Dr. is repentant and would fain forget the period when he held "the official position of secretary to several foreign universities."

The proprietors of the Oxford Music Hall seem to think that their establishment has a character to lose, and that the same is endangered by the London medical students. They have recently affixed to their doors a notification to the effect that they request medical students not to visit their hall. If such apply for admission and are recognised they will certainly be refused, and it is hinted that should the recognition occur on the other side of the paying wicket unpleasant consequences may ensue. Was Mr. Vance a patron of this establishment, or is the notice an artful trick to make the Oxford talked about in medical student circles, and to induce those sons of Eve to sigh for exactly that which is forbidden?

Mr. Balmanno Squire, in the *Medical Examiner*, discusses what he terms the "radical cure" of red face. According to him it is quite easy in many of the most common kinds of redness disfiguring the face, and especially the region of the nose, not only to remove the eruption, but to abolish the conditions which render the skin liable to renewed blossom.

"The method I have to recommend," he says, "which in a large number of examples I have found invariably successful in all the conditions I have enumerated, is based on the method found to be sufficient in dealing with the large varicose veins so commonly to be met with on the legs, namely, division of those veins at right angles to their course. The method I practise consists in simply scarifying the skin with a 'cataract needle.'

"The needle I use is somewhat larger than an ordinary cataract needle, the head of it being about four times the customary size. With it I make parallel incisions over the affected area, spacing them at about one-sixteenth of an inch apart. In order to make the operation quite painless, and also for the purpose of ensuring precision in the drawing of the incisions, I employ Dr. Richardson's æther-spray apparatus for freezing the affected skin, not only with the view of rendering the skin insensible, but also with the view of avoiding any

trickling of blood, which would interfere of course with precision in the draughtsmanship of the incisions. The incisions are carried, according to the essential nature of the lesion, either only half deep through the skin, or through its entire thickness. The hæmorrhage (when the skin has thawed) is quite easily controlled, or rather absolutely prevented, by firm pressure with the fingers, a layer of blotting paper being interposed between the fingers and the scarified skin; the pressure should be kept up for between five and ten minutes, at the end of which time any tendency to bleeding will be found to have ceased. Any layer of clot should then be washed off with a large camel-hair brush, steeped in cold water, and the surface thereupon coated with glycerine applied with another large camel-hair brush. The needle should be sent to the instrument-maker to be sharpened after each use of it. With this precaution and a little address it will be found that the linear incisions (which, if deftly made, will, like the ideal mathematical line, have only length without thickness) have healed perfectly in between a week and a fortnight. After a month no trace whatever of them will remain, and the skin will be found to have regained completely its normal degree of pallor. One precaution needs to be added. After making the cuts, care must be taken not to stretch or drag upon the skin (while exercising the subsequent pressure on it with the fingers) in a direction transverse to that of the incisions, because in such case the wounds will be made slightly to gape, and thereupon the slightly gaping miniature incisions will become plugged (by the time the pressure is removed) by correspondingly minute but irrevocably established wedge-shaped clots of blood. This might seem a small cause of lament; but it is not so, since, as a matter of fact, it becomes the occasion of numerous persistent linear scars, whereas if deftly avoided no trace whatever of the little operation remains when the month has elapsed, excepting only such an absolutely unqualified improvement as is at once gratifying to the practitioner and satisfactory to the patient."

* *

Referring to the title "doctor," which certain physicians are so eager to assume, "An Old Practitioner" writes thus to the *British Medical Journal*:—"Several elderly members of our profession who have repaired to Colleges of Physicians and undergone therein a form of baptism for those of riper years, seem to have returned dubious or oblivious of the new name they have acquired. An ingenious correspondent advises them to assume the title of Doctor of Physic, and to subscribe themselves Ph.D. Would not Pd. be more appropriate and more suggestive of the quiet manner in which the degree had been obtained, and also afford the public a guarantee that their faith and morals had never been contaminated by a University education?"

* *

Last month we gave Dr. Ferrier's recipe for a "bismuth snuff" as a preventive and cure of cold in the head. Dr. Alex. G. Burness writes to the *British Medical Journal* testifying to the value of this cure, but he finds the powdered acacia decidedly objectionable, as it forms a hard incrustation upon the mucous membrane of the nose, difficult to get rid of, and liable to cause much irritation. He suggests, as an improvement, the use of the light subcarbonate of bismuth instead of the heavy trisnitrate, and the omission of the powdered acacia; a little starch might be added, if thought necessary.

* *

The appointment to the office of "Surgeon-Oculist to the Queen in Ireland," rendered vacant by the death of Sir Wm. Wilde, has occasioned some very reasonable complaints in the profession. Several eminent ophthalmologists of Dublin were candidates for the position, and it was considered likely that either Mr. Jacob or Mr. Wilson, both men of acknowledged reputation, would secure the honour. To everyone's astonishment the *Gazette* announced, one fine morning, that the appointment had been given to a promising young gentleman—a certain Mr. Fitzgerald—who had the fortune to be the son of a judge and the nephew of a bishop. With such a pedigree Mr. Fitzgerald is no doubt fully competent to undertake the arduous duties of attending to the Queen's eyes during her not too frequent visits to Ireland; but unless there are better reasons than appear on the surface, the appointment has a strong smell of jobbery.

Provincial Reports.

BIRMINGHAM.

MIDLAND COUNTIES CHEMISTS' ASSOCIATION.

THE annual meeting of the Midland Counties Chemists' Association was held on the 2nd inst., at the Great Western Hotel. The report, which showed a prosperous condition, was adopted. Mr. Barclay, who had held the position of president for the last two years, now wished to retire from the office for business reasons. Mr. William Jones was therefore appointed in his stead. Mr. F. S. Morris was elected vice-president, Mr. Joseph Lucas, treasurer, and Mr. Henry Sanderson, secretary. Mr. Barclay then delivered the following address:—

Gentlemen,—Having resigned the office of president, I have now to fulfil the last of the responsibility which is required by the honourable position you placed me in at the last annual meeting.

The report of the council, which has just been adopted, makes mention of the proposal to hold a Trade Conference at Birmingham.

It will doubtless be asked by some what results are expected from the conference: the answer may be given in a sentence, viz., a trade organisation. We are at present without one. The Pharmaceutical Society does not profess to be such; it is essentially an educational and examining body, and it neither has funds nor appliances to do the work which a trade organisation could accomplish. Some wish the Pharmaceutical Society to broaden its bases, and make arrangements whereby it can cope with the work of a Trade Defence Association. This may be the right course; the whole question, however, will come up for discussion at the conference.

Let us look how we are situated at present in respect to one or two important matters. Take the practising as chemists and druggists by men who are not on the register; there are several such cases in Birmingham, I believe, at the present time. What is the course we now have to pursue? A chemist writes up to the Registrar, giving information that a certain person is acting as a chemist and druggist; the Registrar, desirous of carrying out the law, replies and asks the chemist to procure a pennyworth of oxalic acid or paregoric, labelled, with the name and address of the vendor, and having done so, to undertake that the person who purchased it shall be in readiness to attend the court to say where it was obtained.

Now, as soon as this request is made by the Registrar, the rule is that the chemist shrinks from the position, which is natural, as he would rather suffer great wrong than be branded before the public as a common informer. The result is the case drops through, as the Pharmaceutical Society has no officer to undertake this work. It may be said that our own and other kindred chemists' associations should take up this matter, but if this could be readily done it would not meet the requirements of chemists generally, for there are comparatively few such associations in the country; and thus the greater part of the country districts would be unprovided for. There would again arise the disagreeable necessity for a local informer, and again different solicitors would have to be engaged in each town; this is a serious objection, for, the Act being recent, they do not understand it. It was only this week a question was put to me of great importance to the inquirer, but yet very simple as to the Act: the solicitor, however, could not answer it.

Now, had we a central strong trade organisation all these difficulties would vanish. There could be an officer appointed whose duty it would be to go from town to town and obtain private information from the local secretaries of the Pharmaceutical Society, honorary secretaries of chemists' associations, and others, so that official action might be taken by the solicitors to the association, who would necessarily be well up in the Act, from their constant practice in it.

The necessity for having solicitors engaged in connection with such an association is also shown by the unfair working of the Adulteration Act, for although we are glad to assist in putting down adulteration in any form, and nothing could be conceived more degrading than a man who would stoop to tamper with drugs upon which the life of his fellow-creatures depend, and being proud of the fact that the Act was originated by one of our townsmen, yet we all know that from various causes this Act has caused a vast amount of irritation, loss of reputation, and expense to honest traders.

So far the borough analyst's investigation of the purity of

drugs and chemicals as sold to the Birmingham public has only resulted in the milk of sulphur case, and the defendant in that case was not a chemist and druggist. Speaking of this vexed question, we find one set of magistrates deciding one way, and in the next case, which is tried elsewhere, another totally different decision is given, illustrating the importance of having solicitors retained who are familiar with technical questions so that chemists in small country places, where country gentlemen act as magistrates, as well as those in large towns, could have the same measure of justice. There are many other questions which could be advantageously discussed at a conference: there is, amongst others, the subject of patent medicines, alluded to in the report. The allusion in the report to the Irish Pharmacy Act reminds me of the differences which are not unfrequently arising between some members of the medical profession and chemists and druggists. The interests of the two are so intimately associated and by degrees are becoming more and more so, that I am convinced it only requires forbearance and patience on both sides for a time, and all difficulties will disappear. If we take a retrospective view we ascertain that it is not such a long time since all medical and surgical operations were conducted by the same person, whether under the name of physician-priest, surgeon-barber, or old woman. We find, however, that in 1461 barber-surgeons were incorporated, and in the reign of Henry VIII. the surgeons of this company, then but nineteen in number, were exempt by Parliament from ward and parish offices, and from military service. There existed at that time the Company of Grocers, some of whom, besides supplying plums, sugar, spices, Venice treacle, mithridate, &c., sold drugs. These miscellaneous dealers were employed to prepare the medicine of the barber-surgeons, and we are told that they separated from the grocers, and were incorporated by charter from James I. as the Company of Apothecaries. The reason for separating them was that medicines might be better prepared, and in opposition to divers persons who imposed unwholesome remedies on the people. Dr. Murett, writing in 1669, says, "the next thing to be treated of shall be the ways of apothecaries creeping into practice. Heretofore when they were members of the Company of Grocers, and dispensed in place as well as in council, they then were wholly subordinate to the physicians, only keeping in their shops, and faithfully making the prescriptions they received from the physician. But in process of time physicians, in acute cases, having taught them somewhat, sent them to visit their patients to give them the best account they could of the state of their health and effect of their medicines. And of later years some physicians took them along with them in their visit, whereby they acquired a little smattering of diseases, by which means they made people believe they had acquired some skill in the art, and afterwards began to venture a little at practice, and but until these 10 years last past kept themselves within some bounds and limits, but since that time have daily more and more encroached upon our profession." I read in another place that Dr. Murett proposed that all medical men should refuse to send their prescriptions, then called "bills," to the apothecaries, and that this suggestion was acted upon by several. As may be imagined, considerable jealousy existed between the physicians and apothecaries; and this was not confined to England, but it appears in France it existed also. There the doctors succeeded in reducing the rebel apothecary to submission, and obliged him to take the following

OATH.

"I swear and promise before God, the Author and Creator of all things, one in spirit, and divided into three persons, eternally blessed, that I will observe strictly the following articles:—First, I swear and promise to live and die in the Christian faith. Secondly, To love and honour my parents to the utmost, also to honour, respect, and render service, not only to those medical doctors who have instructed me in the precepts of pharmacy, but also to my teachers and masters, from whom I have learnt my trade. Thirdly, Not to slander any of my ancient teachers or masters, whoever they may be; also, to do all I can for the honour, glory, and majesty of physic. Fourthly, Never to teach to ungrateful persons or fools the secrets and rarities of the trade; never to do anything rashly without the advice of a physician, or from the sole desire of gain; never to give any medicine or purge to invalids afflicted with acute disease without first consulting one of the faculty. Fifthly, Never to examine women privately unless by great necessity, or to apply to them some necessary remedy: never to divulge the

secrets confided to me. Sixthly, Never to administer poisons, or recommend their administration, even to our greatest enemies, or to give drinks to produce abortion, without the advice of a physician; also to execute accurately their prescriptions, without adding or diminishing anything contained in them, that they may, in every respect, be prepared *secundum artem*. Seventhly, Never to use any succedaneum or substitute without the advice of others wiser than myself; to disown and shun as a pestilence the scandalous and pernicious practices of quacks, empirics, and alchymists, which exist to the great shame of the magistrates who tolerate them. Lastly, To give aid and assistance indiscriminately to all who employ me; and to keep no stale or bad drug in my shop. May God continue to bless me so long as I observe these things!"

I am indebted to a paper read by the late Thomas Morson at one of the meetings of the Pharmaceutical Society for the copy of this oath. I find accounts given and charges made respecting the apothecaries of that period which, read in the light of the present day, seem incredible. Dr. Murett, whom I have already quoted, says they were guilty of falsifying their medicines, and used medicines quite contrary to their prescriptions. Physicians were employed in those days to inspect the shops, and were called "censors." These censors found myrtle leaves shewed for senna (*sic*), a binder for a purger, mushroom rubbed over with chalk for agaric, hemlock dropwort roots for peony roots, privet by some, by others dogberries for those of *Spinae cervinae*; no purgers for a strong one; sheep's lungs for fox's; the bone of an ox's heart for that of a stag's heart, &c. It appears that these gentlemen were not only charged with sophistication, but with obtaining extortionate prices. A writer in 1702 says, "I have known an apothecary make 15*l.* of a patient in 10 days' time, by rating the boluses 2*s.* 6*d.* a piece, and other medicines proportionally. If a physician orders an electuary of 4 ounces the apothecary would divide it into 20 or 30 boluses at 1*s.* 6*d.* each, and a quart apozem into four half-pint phials, each charged 3*s.* or 3*s.* 6*d.*"

Another physician writes:—"We may at times prescribe a drachm of treacle, worth 2*d.*, to a poor neighbour, out of charity; the apothecary makes him pay half a crown for a cordial bolus. There are some of us who have retrieved some of our prescriptions, and the apothecaries' bills upon them." This physician writes:—"You will perhaps be amazed when I tell you that when a physician hath without a fee prescribed something worth 6*d.*, because it was made into 24 pills there was so many shillings paid to the apothecary upon his bill for it." I could go on with such illustrations, but these will suffice. In the year 1712 an Act was passed exempting apothecaries from serving the office of constable and scavenger, and other parish and ward offices, and from serving on juries.

In 1819 a good authority states "the physicians and surgeons are greatly outnumbered by the apothecaries or dispensers of medicines, who have in the course of years gradually become medical advisers, and have undertaken both the counsel and management of the sick and the manipulation of remedies."

The *Times* newspaper wrote, during the debate on the Medical Bill in 1856, "As lawyers have a license over our property, and the clergy over our souls, Mr. Brady wished his profession to have an exclusive license over our bodies, so that no one out of the fraternity should have a right to administer a single dose, or so much as feel a man's pulse."

I have not travelled over this ground to hold up the profession either to ridicule or blame, but that we may judge from the results of past experience and compare the condition of the various branches of the profession now with former times. We as pharmacists have no desire to copy the action of the old apothecaries. By our system of education every inducement is held out for men to cultivate the studies of chemistry, botany, and pharmacy, and the student's ambition is to excel in those branches of the profession. Jacob Bell and the other founders of the Pharmaceutical Society deserve not only the thanks of pharmacists, but of the profession and the public for the work they did in the past to raise the practice of chemists and druggists into a profession. Had this not been so the physician would have been compelled to rely on continental pharmacists for the numerous elegant remedies which are now prepared by English chemists, for it is quite evident that surgeons who combine the study of pharmacy with that of surgery, &c., naturally consider it their ambition to excel in the medical or surgical department, and consequently place pharmacy second in importance; and although they keep posted up in the latest remedies, yet if the

advancement of pharmaceutical chemistry was left to them we should soon be distanced by other countries, where the profession of the pharmacist is one of great honour and responsibility. No good is to be gained by opposing each other, as has been the case at Coventry.

I would ask the Coventry practitioners to "remember the rock from whence they were hewn," as their example is not quite so good as their precept, for they may be reminded how their forefathers acted when simply apothecaries. I would also urge upon all chemists to abstain as far as practicable from prescribing. Everyone knows, however, that it is quite impossible to give up counter-prescribing entirely: we find it practised even in continental countries, where the duty of the chemist is defined by the strictest code, and as we are every day travelling in the direction of making pharmacy our profession, so medical men are gradually leaving the practice of pharmacy and devoting themselves to the study of medicine and surgery. The beneficial results which have already been arrived at in those places where surgeons have given up the dispensing of medicines, and chemists on the other hand have practically ceased from prescribing, will encourage others gradually to follow in their footsteps, until it becomes general throughout the country; and I cannot think it will be long, looking at the great advance which has been made in the past few years, before the two professions will be totally distinct, and the one will become the handmaid of the other.

GLASGOW.

GLASGOW CHEMISTS' AND DRUGGISTS' ASSOCIATION.

The annual general meeting was held on May 10, Mr. William Greig, president, in the chair. There was a good attendance.

The honorary secretary, Mr. J. W. Fairlie, read the annual report, which, after sketching the history of the "Glasgow Memorial" and thanking Mr. Frazer for his defence thereof, went on to criticise the lectures which had been delivered before the association during the session that had passed. The classes were not reported on very favourably. The practical chemistry class which it was proposed to provide had been abandoned. A tutorial class and a botany class had been carried on with 23 and 21 students in them respectively. The meeting of the British Pharmaceutical Conference was next alluded to, and indications were given of the welcome which the Glasgow pharmacists proposed to give the members. The proposed "Defence Association" was warmly commended, and the report concluded by showing how much there was for the Glasgow association yet to accomplish. It was remarked, however, that the membership was this year larger than ever, numbering 163. After other statements and addresses by Mr. Wm. McKenzie, the treasurer, Mr. R. A. Taylor, secretary of the Assistants' section, Mr. Kinninmont, and the President, officers were elected for the ensuing year, the result being: President, Mr. Daniel Frazer; Vice-President, Mr. Kinninmont; Treasurer, Mr. W. McKenzie; Secretary, Mr. J. M. Fairlie; Council, Messrs. John Currie, sen., James MacDonald, William Greig, John Macmillan, Thomas Davison, John Jaap, William Whyte, R. Brodie, R. C. Rait, J. M. G. Murdoch, J. A. Clarke, and A. Paul; Auditors, Messrs. A. Paterson and John Foster. A hearty vote of thanks to the retiring president, Mr. Greig, brought the meeting to a close.

MANCHESTER.

At a meeting of the council of the Manchester Chemists' and Druggists' Association, held on the 2nd inst., the lecturer to the classes (Mr. L. Siebold, F.C.S.) read the following report:—

"Gentlemen,—The fourth annual session of the Manchester School of Pharmacy commenced on October 1, 1875, and terminated May 31, 1876. Three courses of lectures were delivered during that period, viz., thirty-six lectures on pharmaceutical chemistry, on Fridays, from 7.30 to 9 p.m.; twenty-seven lectures on materia medica and pharmacy, on Tuesdays, from 7.30 to 9 p.m.; and fifteen lectures on botany, on Tuesdays, from 9 to 10 p.m. Twenty-five students entered for the chemistry course, sixteen for materia medica and pharmacy, and eleven for botany, making a total of fifty-two entries. The students were assistants and apprentices engaged in business in Manchester, Salford, Hyde, Cheadle, Stockport, Ashton-under-Lyne, Bury, Rochdale, Heywood, Bolton, and Warrington. There were in all thirty-two students, of whom

six attended all the three courses, eight attended two courses, and eighteen one course only. The fees were thirty shillings for the chemistry course, twenty-five shillings for the courses on materia medica and pharmacy, two pounds ten shillings for the two courses together, and fifteen shillings for the botany course. The total amount of fees received was 62*l.* 10*s.*, and this sum was further augmented by a grant of 25*l.* from the Pharmaceutical Society. All the lectures were delivered at 225 Oxford Street, and were amply illustrated by experiments, specimens, and diagrams.

"Throughout the session the attendance was very good and regular, and the attention and interest manifested by the students were such as afforded me very great pleasure and gratification. The progress of the students was tested at regular intervals by *viva voce* examinations, the results of which fully confirmed the good opinion I had formed of the majority of those whom I had the pleasure of instructing. As in previous years, competitive examinations were held at the end of the session, and prizes awarded to the successful competitors. Eleven candidates competed for the chemistry prizes, eight for the materia medica and pharmacy, and six for the botany prizes. The awards are as follows:—

"*Chemistry*.—1st prize to Mr. George Henry Mason. 2nd prize to Mr. William B. Masou.

"Very good papers were also delivered by Mr. C. Challenor, Mr. R. T. Slinger, and Mr. A. Richardson.

"*Materia Medica and Pharmacy*.—1st prize to Mr. William B. Masou. 2nd prize to Mr. Robert T. Slinger.

"The answers returned by Mr. C. E. Lister and Mr. G. H. Mason merit high praise.

"*Botany*.—1st prize to Mr. George Henry Mason. 2nd prize to Mr. Robert T. Slinger.

"Never within my recollection was harder and more honest work done in one session, and never were prizes better deserved than by those whose names I have just announced. The competition for the materia medica prizes was especially a very keen one. Mr. W. B. Masou's paper is a most excellent one throughout, and those of Mr. Lister, Mr. G. H. Mason, and Mr. Slinger were so nearly equal in merit that a second examination became necessary in order to decide who had the greatest claim to the second prize. The success achieved during the past session encourages me in the hope that our Manchester School of Pharmacy will become a permanent institution, and that it will soon be in a position to extend its work to a much larger number of students."

After the report had been read, some remarks were made by Mr. J. T. Slugg, Mr. Siebold, Mr. Baden-Bonger, Mr. Brown (the president), and Mr. G. H. Mason, one of the prizemen. It transpired that Mr. Brown had himself added 5*l.* worth of books to 5*l.* worth offered by the council as prizes. He said he had found that real and earnest work had been done in the classes this session, and he was anxious to encourage such work, and to stimulate future students. He confidently believed that such a centre as Manchester ought to command almost as large a number of students as London itself, and he looked forward to the time when the Manchester School of Pharmacy would take a still higher position and be able to offer greater facilities than it had yet been able to provide. Manchester was particularly fortunate in possessing so accomplished a pharmacist as Mr. Siebold; a man who could not only teach one of the subjects required, but all of them, and all equally well, and whose popularity amongst the students was so great.

NOTTINGHAM AND NOTTS CHEMISTS' ASSOCIATION.

The annual meeting of this association was held on May 25, at Britannia Chambers, Pelham Street, the president, Mr. J. H. Atherton, in the chair. There was a large attendance of members.

After a few preliminary remarks by the chairman, the hon. secretary, Mr. Jackson, read the annual report of the council, which congratulated the members on the increased activity shown during the past session, and the improved position of the association, both numerically and financially. There are now 50 members and 27 associates, and the treasurer's accounts show a balance in hand of 16*l.* 14*s.* 2*d.*

Considerable discussion ensued on the report, and it was ultimately decided that it was desirable to purchase a good working microscope for the use of members and associates, and also to

further increase the museum, the arrangements being left in the hands of the in-coming council.

Votes of thanks were given to the officers for their services during the past session, and the following were appointed for the ensuing year:—President, Mr. J. H. Atherton, F.C.S.; Vice-President, Mr. R. Fitzhugh, F.C.S.; Treasurer, Mr. J. Rayner; Hon. Secretary, Mr. R. Jackson; Council, Messrs. Bolton, T. B. Fletcher, Jenkins, Lomas, Lewis, Smith, White, and Wilford.

IRELAND.

PHARMACEUTICAL SOCIETY.

THE monthly meeting of the council of the above society was held at the College of Physicians, Kildare Street, on Wednesday, June 7, Dr. Aquilla Smith, vice-president, in the chair. The following members were present:—The Right Hon. the Lord Mayor, Mr. William Allen, Dr. Collins, Dr. Frazer, Mr. J. Goodwin, Mr. William Hayes, Mr. J. T. Holmes, Dr. Ryan, and Professor Tichborne.

A letter was read from Mr. Myles Jordan Brown, solicitor for Co. Mayo, requesting a certified copy of the register of pharmaceutical chemists, as he had been instructed by the Attorney-General to prosecute in a case of illegal sale of poison. The council directed the registrar to forward the copy as requested.

Mr. Holmes moved the following resolution:—"That a circular requesting support to Mr. Errington's amendment in committee on the Juries Procedure Bill (Ireland) be forwarded by the council to Members of Parliament." He said that at the last meeting of the council a request had been forwarded to the Chief Secretary, asking him to include pharmaceutical chemists in the exemption clause of the Juries Procedure Bill, and that a reply had been received in which Sir M. H. Beach stated that "as at present advised he did not see sufficient reason for exempting pharmaceutical chemists." A meeting had, therefore, been held, at which Mr. Holmes had been deputed to endeavour to induce some private member to urge the matter. He had applied to Mr. Errington, M.P., who at once took the matter up, and had given notice of an amendment exempting pharmaceutical chemists. It was understood that Sir M. H. Beach is strongly opposed to the amendment, on what grounds it was hard to say. He (Mr. Holmes) could bring forward unanswerable arguments in favour of their exemption, but would simply state the fact that in England pharmaceutical chemists are exempt.

The Lord Mayor said he had great pleasure in seconding the motion. He fully endorsed what Mr. Holmes had said, and considered it very desirable in the interests of the public that pharmaceutical chemists should be exempt from service, and was at a loss to understand why there should be exceptional legislation for Ireland in a case of this kind.

A circular in accordance with the terms of the motion was drawn up by the council, and the registrar was instructed to forward a copy to all Irish Members of Parliament.

* *

The following circular has been forwarded by the Pharmaceutical Council to all Irish Members of Parliament:—

Pharmaceutical Society of Ireland.

Dublin, June 7, 1876.

In Committee on "Juries Procedure (Ireland) Bill":—

Mr. Errington,—Schedule III., page 13, line 14, after "certified" insert "Pharmaceutical Chemists duly registered."

SIR,—The Council of the Pharmaceutical Society of Ireland solicits your support of this amendment, on the ground that all Pharmaceutical Chemists in England are exempt from serving on juries.

I have the honour to be, sir, your obedient servant,

HUGH JAMES FENNEL.

Registrar, Pharmaceutical Society of Ireland.

* *

Mr. Wm. Goulding, the new M.P. for Cork, is a member of the Irish Pharmaceutical Council.

CHEMISTS' AND DRUGGISTS' ASSOCIATION.

A special meeting of this association was held at the society's rooms, 174 Great Brunswick Street, Dublin, on Monday, May 15; Professor Tichborne, vice-president, in the chair.

It was decided not to continue the classes during the

summer months. The honorary secretary, Mr. W. Hayes, announced that the association had decided upon offering the following prizes for competition for the students attending the classes, previous successful candidates not being allowed to compete. Chemistry, first prize, 2*l.*, in addition to which the vice-president gives a second prize of 1*l.*; two prizes in practical pharmacy, and two prizes in materia medica.

Mr. Boyd proposed and Mr. O'Brien seconded the following resolution, "That three members of the society, viz., Messrs. Birmingham (T. C.), Boyd and Wells, in conjunction with a deputation from Belfast, be requested to wait upon the Pharmaceutical Council, and solicit them to assist in bringing before the Chief Secretary the subject of Dr. Whittaker's motion of May 3. It was arranged that the secretary should confer with the secretary of the Belfast Society, and have the subject of the reception of the deputation put on the notices of motion for the next meeting of the Pharmaceutical Council.

The examinations in materia medica and practical pharmacy were held on Wednesday, May 31, by Dr. Frazer.

Nine candidates competed. The following were successful:—

Materia medica, first prize, Walter Murphy; second prize, John Jose. Practical pharmacy, first prize, Walter Murphy; for the second prize the competition was so close between the following three candidates, viz., John Jose, Edward Hanrahan, and J. H. Boardman, that two extra prizes were given, one by Dr. Frazer and the other by Mr. William Hayes, honorary secretary.

In the chemistry class the first prize was gained by Walter Murphy; second prize, John Jose. Professor Tichborne was the examiner. He reported that all the candidates had answered exceedingly well.

Poisonings.

DEATH THROUGH MISTAKING AMMONIA FOR WATER.

A FEW Sundays ago Frederick Prosser, 49 years of age, assistant chemist, went to the shop of Mr. Lister, chemist, Gateshead, where he was employed, for the purpose of getting a stimulant of cinnamon. Mr. Lister, hearing a shout, went into the shop and found Mr. Prosser on his knees writhing in agony. Mr. Lister at once observed that Mr. Prosser had in the darkness, the shutters being up, mistaken a bottle of ammonia, which was standing near the cinnamon, for water, and had thus accidentally poisoned himself. Medical aid was at once procured, but Mr. Prosser lived only a few minutes.

DEATH FROM LAUDANUM.

A DRUGGIST named Robert Ramsay, aged about 40, went to Liverpool lately in search of employment. He stayed at the Canton Hotel, Victoria Street, and was there found one morning dead in bed. It was shown that he had died from taking laudanum, of which he had a supply for rubbing his shoulders to relieve the pain of rheumatism, and it was conjectured that he might have taken some in mistake for a draught.

DEATH FROM CHLORAL.

AN inquest was held on the 1st inst. at Bothamsall, near Retford, on the body of a young farmer, named Thomas James Pindar, who died the previous night after taking chloral. From the evidence it appeared that the deceased suffered from sleeplessness, and to procure sleep he purchased a bottle of chloral from Mr. Crowe, of 49 Princes Street, London. This bottle contained 16 undiluted doses, and another, purchased of Mr. Whitfield, Scarborough, contained only two doses. The bottles were of the same size, and were placed in the same drawer, and deceased took by mistake the one containing 16 doses, and died in half an hour. A juryman asked the doctor if he thought it was right to sell chloral so strong to non-professional persons. The doctor thought there should be some restrictions. The jury returned a verdict of "Death from taking an overdose of chloral."



BANKRUPTS.

ASHTON, G. W., alias WILLIAM BAKER, trading as ASHTON & Co., East Retford, Notts, cattle food merchant. May 19.
 BRIERLEY, JOHN, Liverpool, chemist. June 27.
 BUTLER, JOB, King Street, Darlaston, chemist. May 30.
 JENKINS, DAVID MORRIS, Treherbert, Pontypridd, chemist. June 27.

LIQUIDATIONS.

(By arrangement or composition.)

Notices of first meetings have been issued *in re* the following estates. The dates are those of the petitions:—

BELL, WILLIAM, King Street, Great Yarmouth, chemist. June 1.
 BUCKLEY, SIR EDMUND, Higher Ardwick, Manchester, Grotton Hall, Yorks, Plas Dinas, Mawddwy, Merionethshire, Eynant, Montgomeryshire, Worthing, Sussex, baronet, M.P., &c., carrying on business at 36 Higher Ardwick, and Droydsden, near Manchester, as a prussiate of potash and copperas manufacturer, and at Elland, Yorks, as a copperas manufacturer, under the style of the trustees of the late J. BUCKLEY. May 23.
 COLE, GEORGE MARTIN, Alcester, Warwickshire, surgeon. May 9.
 DUCKETT, HENRY FRANCIS, Old Chapel Yard, Friargate, Preston, drysalter. May 23.
 ELLIS, EDWARD JOHN, and WHITLOW, JAMES, trading as ELLIS & Co., Old Ford, chemical manufacturers. May 24.
 GARDNER, JAMES PETER, 42 Claremont Street, Pentonville, late Kilburn, chemist. May 22.
 GIBSON, OSMUND, and WOODLEY, CHARLES HERBERT, 12 Southwark Street, isinglass and gineose merchants. May 12.
 HAMMOND, WILLIAM, Upper Mill Hill, Leeds, pain paint manufacturer. May 18.
 HARVEY, EDWARD, Market Place, Wednesbury, druggist and agent. May 12.
 JENKINS, DAVID MORRIS, Treherbert, Glamorganshire, druggist. May 25.
 JENKINSON, JOHN HENRY DIXON, trading as J. H. D. JENKINSON & Co., Sheffield, chemist. May 18.
 JOLLY, HAMILTON WILLIAM, Shincliffe and Cassop, Durham, doctor. May 18.
 KELLAND, CHARLES T., 83 Victoria Dock Road, surgeon. May 3.
 MATTHEWS, ARTHUR, JUN., Dovercourt and Harwich, surgeon. May 20.
 McCULLOCH, HUGH T., and PERRIN, HENRY, trading as McCULLOCH & Co., 9 Mining Lane, chemical merchants. May 19.
 NORMAN, JOHN WILLIAM, Dunster, Somerset, surgeon. May 8.
 RAYNER, HENRY, JUN., Handsworth, Staffs., agent, late Connan's Quay, Flint, chemical manufacturer. May 2.
 ROSSITER, DANIEL, Gainsborough, late South Leventon, surgeon. May 17.
 TURRELL, SAMUEL, Park Street, Windsor, surgeon. May 12.
 WAINE, AUSTIN, Malnesbury, Wilts, veterinary surgeon. May 5.
 WITHERINGTON, SIDNEY HERBERT, 410 Wansworth Road, chemist. June 3.

DIVIDENDS DECLARED.

BURGE, JOHN A., Greenock, chemist, &c. (Seq.); first, J. Wilson's, 59 St. Vincent Street, Glasgow, on and after June 7.
 OGILVIE, THOMAS, & Co., George Street, Glasgow, and Croy, Dumbarton, manufacturing chemists, &c. (Seq.); second and final, R. E. Aitken's, 66 St. Vincent Street, Glasgow, on and after June 10.

BANKRUPTCIES CLOSED.

DOS SANTOS, FILIPPE S., Great Winchester Street Buildings, preserved meats dealer. (A div. of 4s. has been paid.) Bankruptcy closed June 1.
 HELE, NICHOLAS F. (Bkt.), Aldeburgh, Suffolk, surgeon. Discharge granted May 19.
 LEVY, N. H., 18 Old Corn Exchange, Manchester, oil merchant. (The property has not realised sufficient to pay the costs of the bankruptcy.) Bankruptcy closed May 29.

PARTNERSHIPS DISSOLVED.

BELL & HUTCHINSON, Manchester, chemical manufacturers. April 8. Debts by Thomas W. Hutchinson.
 BOYER, T. B., & Co., 40 Noble Street, Cheapside, brush-makers and perfumers. April 15. Debts by John B. Boyer.
 BROWN & Co., 18 Giltspur Street, medical glass dealers. April 12. Debts by Percival Hodgkinson.
 GABRIEL & GABRIEL, Ludgate Hill, dentists.
 GADDS & DODD, Brampton, Cumberland, chemists.
 GIBBS & FORD, Bristol, chemical manufacturers.
 GIBBS, FORD & FORD, Plaistow, Essex, chemical manufacturers (so far as regards James Gibbs).
 GRIFFITHS, BETTISON & BERDOZ, trading as SILICATE PAINT CO., 24 Fenwick Street, Liverpool, manufacturers of silicate paints. May 10.
 HILL & BAZLEY, Leominster, Herefordshire, veterinary surgeons. April 20. Debts by John Roberts Hill.
 MOFFAT, STEVEN & Co., Glasgow, starch manufacturers. May 9. Debts by Peter Moffat.

SCOTCH SEQUESTRATION.

WHITE, PETER, Argyle Street, Rothesay, surgeon. May 3, with protection.



[The following list has been compiled expressly for THE CHEMIST AND DRUGGIST by L. de Fontainemoreau & Co., Patent Agents, 4 South Street, Finsbury, London; 10 Rue de la Fidélité, Paris; and 33 Rue des Minimes, Brussels.]

Provisional Protection for six months has been granted for the following:—

1418. H. B. Binko, of 28 Bath Street, City Road, Middlesax. A new kind of bottle with movable bottom. Dated April 1, 1876.
 1534. N. Fritzner, of Berlin, Prussia. New or improved stopper appliance for bottles. Dated April 11, 1876.
 1589. J. Hannan, of Edinburgh, Millthian, N.B. Improvements in bottles for containing aerated liquids, and in the mode or means of stoppering or closing such bottles. Dated April 13, 1876.
 1610. H. Collet and J. B. Denans, both of Paris, Republic of France. Improvements in apparatus for regulating the flow of liquids. Dated April 17, 1876.
 1654. H. B. Fox, of Oxtou, Cheshire. Improvements in and applicable to stoppering bottles or other receptacles containing liquid, whether gaseous, aerated, or otherwise. Dated April 20, 1876.
 1682. H. Langston Jones, of Webster's Hotel, Ely Place, Holborn. Improvements in solid and liquid disinfectants and deodorizers. Dated April 21, 1876.

Letters Patent have been granted for the following:—

3731. D. Rylands, of Ardesley, York. Improved arrangements applicable to stoppers or covers for bottles and jars, and to other hollow articles. Dated October 27, 1875.
 3931. J. D. Allatt, of Montpellier Street, Walworth, and J. A. Patton, of Queen's Row, Walworth, Surrey. Improved apparatus for stoppering or closing the necks of bottles containing aerated and other liquids. Dated November 12, 1875.
 4352. H. Grauel, of Mudgeburg, Prussia. Improvements in stoppers for bottles. Dated December 15, 1875.
 24. T. Sutcliffe and J. Fewings, both of Barnsley, Yorks. Improvements in apparatus and stoppers to be used for bottling aerated and other liquids. Dated January 3, 1876.
 903. J. Cammack and A. Walker, both of St. Helen's, Lancashire. Improvements in the manufacture of sulphates of soda and potash, and in the apparatus employed in such manufacture. Dated March 3, 1876.

Specifications published during the month:—

Postage 1d. each extra.
 1875.

3246. F. W. Schreiber. Apparatus for capsuling bottles. 8d.
 3248. S. S. Lewis and A. Copie. Soap. 4d.
 3262. H. Y. D. Scott. Treatment of phosphates of iron and alumina. 4d.
 3265. W. McKenzie and R. E. Donnaven. Soap. 4d.
 3311. H. B. Fox. Stoppering bottles. 4d.
 3332. G. Gibbs. Stoppering bottles. 4d.
 3358. T. Robinson. Manufacture of sulphates of soda and potassa. 4d.

Obituary.

ANDERSON.—April 17, Mr. George Robert Anderson, chemist and druggist, of Belgrave Street, Stepney. Aged 70 years.

BANEKS.—May 9, suddenly, of heart disease, Mr. Christopher Baneks, chemist and druggist, of Market Place, Lichfield. Aged 53 years.

BLADES.—May 29, Mr. Christopher Blades, pharmaceutical chemist, of Leek. Aged 64 years.

BOND.—April 27, Mr. Lawrence Vodder Bond, pharmaceutical chemist, of Tiverton. Aged 52 years.

BREW.—May 30, at the residence of his son-in-law, South Hampstead, Mr. T. A. D. Brew, of Brighton. Aged 74 years.

COCKBURN.—April 27, Mr. Thomas Cockburn, chemist and druggist, of Dalkeith. Aged 35 years.

COX.—May 15, Mr. Henry Cox, chemist and druggist, of Strutton Ground, Westminster. Aged 46 years.

CUMSTY.—April 7, Mr. George Charles Cumsty, chemist and druggist, of Islington, Liverpool. Aged 42 years.

HUGHES.—March 26, Mr. Hugh Griffith Hughes, pharmaceutical chemist, of Hokitika, New Zealand. Aged 35 years.

KEMP.—April 26, Mr. Richard Kemp, pharmaceutical chemist, of Upper Street, Islington. Aged 73 years.

MOFFATT.—May 15, Mr. Thomas Dryden Moffatt, M.R.C.S.E., of Union Street, Glasgow, formerly a chemist and druggist, and President of the Glasgow Chemists' and Druggists' Association in 1867-8. Aged 40 years.

PROSSER.—May 14, Mr. Frederick Septimus Prosser, chemist and druggist, of Gateshead. Aged 47 years.

SMITH.—April 17, Mr. George Mason Smith, chemist and druggist, of Gravesend. Aged 30 years.

SMITHARD.—April 14, Mr. Henry Herbert Smithard, chemist and druggist, of Peckham Grove.

WILKINSON.—May 5, Mr. James Wilkinson, chemist and druggist, of Wigan. Aged 43 years.



For particulars of Advertisements, Subscriptions, &c., please refer to the first page of Literary matter. An Index to the Advertisements contained in this issue will be found in the front portion of the Journal.

OFFICE—Colonial Buildings, 44a Cannon Street, London.

RENDALL'S THEOBROMINE, OR CONCENTRATED COCOA,

BEING a first-class article, and nicely got up, commands a good sale by all Chemists who bring it under the notice of their customers.

In 1s., 2s., 3s. 9d., and 7s. 6d. tins, through the Wholesale Houses, or direct from the Proprietor,

J. M. RENDALL,
28 QUEEN STREET, EXETER.

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SANGER & SONS, 150 OXFORD STREET, W.

"LEA & PERRINS'" SAUCE, THE "WORCESTERSHIRE."



In consequence of Spurious Imitations of LEA & PERRINS' SAUCE, which are calculated to deceive the Public, LEA & PERRINS have adopted a NEW LABEL, bearing their Signature, thus—

Lea & Perrins



Which will be placed on every bottle of WORCESTERSHIRE SAUCE after this date, and without which none is genuine. Sold Wholesale by the Proprietors, Worcester; Crosse & Blackwell, London; and Export Oilmen generally. Retail, by dealers in Sauces throughout the World.

November, 1874.

POROUS BATTERY CELLS OF SUPERIOR QUALITY.

PATENT PLUMBAGO CRUCIBLE COMPANY,

Sole Makers of Morgan's Patent Crucibles,

BATTERSEA WORKS, LONDON, S.W.

DOMESTIC FILTRATION.

"WITH regard to the Silicated Carbon Filters, I have made many experiments upon them, and have been astonished at the energy and rapidity of their action. I passed through a small Filter of this make some of the worst description of water supplied by the London Water Companies, and found it, after filtration, to have become as pure as the very best London water. My experiments show that the Filter exercises a decomposing action—a chemical action—on the Organic impurities in Drinking Water. I have no doubt that water, which is dangerous from the Organic Matter contained in it, becomes safe on passing through the Silicated Carbon Filter. A point of some importance, shown by my experiments, is that a Second Filtration still further improves the quality of Drinking Water. After being in use for a considerable period, Filters lose their power and require renovation. I have found that the passage of a little Hot Water through the Silicated Carbon Filter, and afterwards blowing a little air through it, restores its power."

J. ALFRED WANKLYN, M.R.C.S., London,
Formerly Professor of Chemistry in the London Institution;
Joint Author of a Book on Water Analysis, and of the
Ammonia Process.

REDUCTION IN PRICES.

GENERAL MINERAL WATERS DEPÔT,
27 MARGARET STREET, REGENT STREET,
LONDON.

THE TRADE CONFERENCE.

THE conference at Birmingham, first suggested by Messrs. Southall Bros. & Barclay, is now definitely fixed for the second week in July. It will probably occupy two days, but this and the exact date remains to be settled by the influential committee which has collected to arrange details. The firm named have done a service to the trade with great spirit and liberality; and whether the conference prove a failure or a success they will be equally entitled to our heartiest thanks.

We suggest the possibility of failure, not, certainly, with the object of throwing cold water on the scheme, but in order that we may impress on those who approve of the proposal the essential importance and necessity of their own personal action in supporting it. We are quite sure that the movement has sympathisers in all parts of Great Britain. There are, no doubt, thousands of druggists who think it quite desirable that a union for defence and trade advantage should be formed, who may possibly subscribe to such an association when they see it securely established and doing a good work, but who will wait with the calmest patience for our report next month before they decide to link their honoured names with its fortunes; and this, they will flatter themselves, is an indication of their cool judgment; far from them the enthusiasm of the ignorant crowd: theirs is the critical faculty which will see at a glance the weak points of the arguments, and will favour us before the end of July with abundant comments, showing how much more wisely our proceedings might have been conducted. We thank kind heaven for the critics; likewise for east winds, poor relations, and afflictions generally. These are all excellent in their way, and, no doubt, purvey to us many unrecognised blessings. But they are not our sole nor our chief benefactors, and at a time like this, if we are to have a Druggists' Defence Union, we must have energetic, active, earnest friends; men who see the need, and who will come promptly forward to accomplish the work.

If the trade is ever to have a voice which shall be listened to with respect on trade matters it can only be gained by union. The Pharmaceutical Council has indicated, both by word and by its general course of conduct, an almost discreditable eagerness to shuffle off its responsibilities in respect to trade interests on to the shoulders of any rival that will come forward. Perhaps, as Mr. Humpage politely told the councillors at the annual meeting last month, their avoidance of dirty water is an indication of their good taste, but it is certainly also a proof of the necessity for a more vigorous combination. Several dangers to the trade, as a trade, are now prominent. There are no means of battling with these to good advantage except by uniting all our strength. The licensed victuallers showed us at the last election what power could be wielded by a body with a single definite purpose. If only the votes of traders generally could be focussed in like manner at another general election, who would give much for the chance of Civil Service stores and their dishonourable competition? At present the House of Commons simply laughs at the arguments which it cannot answer, and has no interest in answering. Arthur Orton is almost as largely represented in that assembly as the powerful, but as yet disunited, section of the British public which could be classed as shopkeepers. There are other threatening questions. Any day the less discreet section of the medical profession may push

their momentary advantage to a test struggle in order to stamp out counter prescribing. They would never dare to do it in face of a resolute and representative organisation, which they knew was prepared to fight the vital question "to the last ditch and the last biscuit."

There are certain among us who think such an association would be useful, but they fear it will be marred by the "constitutional grumblers," who will never cease to regard their own petty grievances as the most appalling injustices under heaven. Those who see this rock ahead, and it is an obvious danger, can best help to save us from it by adding the weight of their names and counsel to the new corporation.

Although we hope a large meeting will assemble in Birmingham, and thus show that apathy is not the ruling characteristic of our craft, we think numbers are not essential to success. What is particularly desirable is that those who come should be authorised delegates of their fellow-chemists in the same town or district. If between now and the date of the meeting this should be arranged in a hundred towns of Great Britain we should be sure of complete success. Some of the Yorkshire towns have already made their plans to be thus represented. Those who will not have the opportunity of being present, and who will not be represented, might at least express by letter their concurrence with the scheme, and their promise of support in the event of a general satisfaction with the plan of action.

We shall not presume to suggest any special programme for the conference, but we may perhaps add a few general remarks, showing the lines on which we think that programme should be traced.

First of all, the main purpose of the meeting now called is not merely talk. Unless a defence association emerges from the conference, the gathering will have missed its aim. Again, it is to be hoped that impracticable objects will be rigidly excluded from the discussion. An association which should waste its time in efforts to sweep back the Atlantic Ocean would not deserve existence. Some of our correspondents sometimes demand in imperious manner that a law should be forthwith procured making it penal for any persons except registered chemists and druggists to sell Epsom salts and castor oil. Whether the British Parliament will ever give us that monopoly it is not for us to say; but the briefest outlook will show that the prospect is not within the actual horizon of possibility. Lastly, let us urge on those who attend the conference a regard for the general welfare of the trade, and not the mere rectification of a local grievance. Not that special difficulties are not to be considered, but that they should give place to general objects. A sprinkling of gentlemen with no direct grievances will make a useful element in the conference, for such can look upon the troubles of others with enviable impartiality.

In our next issue (July 15) we hope to fully report the proceedings of this conference, and while we shall not hesitate to declare the exact truth concerning it, we hope most sincerely to be able to announce a handsome success.

PHARMACEUTICAL TORYISM.

WE cannot congratulate the new Pharmaceutical Council on the display of any exceptionally brilliant collective wisdom at its maiden meeting, held this month. The election of three very excellent gentlemen to the positions of president, vice-president, and treasurer seems to have exhausted the legislative clairvoyance of the honourable councillors. The first manifestation of toryism was suggestive. One of the group of committees which transact the extra-council work of the society is the Library, Museum and Laboratory committee.

This alone of all the committees is fixed to meet in the middle of each month. It therefore happens that a number of miscellaneous matters come before it, for the reason that it intersects the periods between each council meeting. It has become, in fact, the odd-boy of the household, a position which an unsophisticated mind would probably award to the "General Purposes" Committee. Now it so happens that several country representatives would like to work on this particular committee (the "Library, Museum and Laboratory"), but they are practically precluded from its deliberations unless it could be arranged to meet on the day preceding the council meetings. This, Mr. Sandford says, cannot be; inasmuch as it does all that odd work, it must meet in the middle of the month; ignoring, what is the obvious fact, that it does the odd work *because* it meets in the middle of the month. For anything that outsiders are permitted to know, there is no reason at all why another committee could not equally well discharge such functions if an exchange of days were made, and this was suggested, but the majority followed Mr. Sandford's lead and refused the concession. Another result of the new council's labours which we think is to be regretted was the election of Mr. Stacey to the vacancy caused by the retirement of Mr. Baynes. We have not the smallest doubt of Mr. Stacey's very high qualifications for the post, but we cannot forget that he has been more than once rejected by the society when the members have had the opportunity of expressing their opinion. Mr. Baildon, of Edinburgh, attained this year the highest number of votes next to the successful candidates, and he occupied the same position in 1874, Mr. Stacey on that occasion being placed two below him. There may be, and we think there are, economic reasons for not appointing a duplicate representative from such a distant point as Edinburgh. But if the obvious principle of choosing the highest on the list of rejected candidates had to be departed from it does seem that lesser favourites of the constituency should be religiously let alone. Mr. Stacey belongs to one of the traditional governing houses of pharmacy, and his election savours very strongly of cliquism, from the suspicion of which the council should carefully guard itself. The interests of the eminent houses are in no danger, but there is one very large section of the pharmaceutical body, at this moment most seriously threatened, which perhaps has no thoroughly trustworthy spokesman on the present board. We should like to know which of our happily-conditioned councillors would care to announce that his interests and those of prescribing druggists generally were identical. It is a great pity that such an excellent opportunity of appointing some one who should authoritatively represent the views of the chemists of the eastern districts of London should have been lost. It would have been an advantage to the council and a great satisfaction to a large section of the society.

Passing on with this panorama of unfortunate decisions, we come to another discussion, the result of which we cannot regard as other than melancholy. It was on the proposal we have ourselves urged several times, that candidates for annuities should be saved the cruel expense of canvassing for votes by means of a simple prohibition of the system by the council. It needs no argument to show how, as far as it is of any use whatever, canvassing directly aids those who least need the advantages sought. The assertion that the council has no right to make such a prohibition is surely not serious; what seem to be really the grounds of refusing this reform are, first, the innate conservatism of the majority, and, secondly, the atrocious reason coolly and openly presented by Mr. Owen, that this canvassing brought in fresh subscribers. In other words, it is found to be an excellent plan to advertise the fund at the expense of these poor applicants for relief. The Benevolent Fund, we hope, could bear the loss of

those supporters, if such exist, who subscribe merely for the miserable gratification of being asked for their votes. The well-known old story of Abernethy is applicable here. He was once a candidate for some important appointment, and in the course of a canvass he called with some influential friends on a certain wealthy grocer, of the character so respected by Mr. Owen. "Well, sir," said the pompous shopkeeper from behind his counter, "You have called, I suppose, to solicit my vote and interest at the approaching election." "No, I haven't," retorted the disgusted doctor; "I want a penn'orth of figs; come, be quick and wrap them up, for I am in a hurry."

One word seems also necessary in reference to the loose and variable manner in which the proceedings of the council are now reported. The society seems quite content to accept its reports in the cooked condition in which the council is pleased to supply them, but it would hardly complain, we imagine, if a little uniformity in the style of cooking were observed. The division lists, for example, are given occasionally only, but what is the principle of selection it would be perhaps difficult to say. We are told, for instance, who voted on the "Committee" question, but the "Benevolent" business is disposed of by saying that "the resolution of Mr. Shaw was put and lost." We are told that Mr. Stacey was elected by ballot, but we are not told whether there was any opposition to his nomination. We read, too, some vague announcement of petitions from certain provincial towns asking the council to take up the question of forming a kind of trade protection society. In view of the approaching conference, some further details concerning these petitions would have been welcome, but these are not furnished. When will a council come into power which will perceive that it would be both a wise and graceful movement to invite to its sessions a reporter from the journal which, without too much assumption, may claim to be the only independent and recognised organ of the trade?



Editorial Notes

SURGICAL INSTRUMENTS.

M. J. F. CHARRIÈRE, the noted surgical instrument maker of Paris, has lately died at the age of 73. Charrière was a Swiss by birth, but came to Paris when he was 12 years of age, to be apprenticed to a cutler. Having served a five years' term, he bought for a hundred pounds the little business where he had worked, and set earnestly to work to study his occupation, bringing to bear upon it the devotion and affection of a true artist. Soon Sheffield heard of the steel instruments which Charrière was producing, and consumers placed so great a reliance on his products that surgical instruments became an acknowledged branch of Paris manufacture, and in less than 25 years from the date of commencing business Charrière had exchanged his little cutler's shop in the Court of St. Jean-de-Labian for large workshops in the Rue de l'École de Médecine, in which more than 400 artisans were employed. At the London Exhibition of 1851 Charrière competed boldly with the most eminent English makers, and so successfully (say the French journals) that the international jury had determined to award him the Council Medal, the highest prize they had to give, and that this was only prevented by the energetic jealousy of our own countrymen. However this may be, a theatrical scene was got

up when the French honours of the exhibition were distributed in November, 1851. Louis Napoleon, then President of the Republic, was officiating, when the Baron Dupin asked permission to proclaim "in the name of the thirty-six members of the French jury, in the name of the Institute, and in the name of the Academy of Medicine, that M. Charrière was the first artist in Europe in his own speciality." In consequence of this speech Napoleon conferred on the old cutler's apprentice the officer's cross of the Legion of Honour. The same evening a banquet was given at the Elysée in honour of the occasion, at which Louis Napoleon presided. In the course of the evening the President stepped up to M. Charrière, and taking his own cross from his breast, said, "Allow me the honour of exchanging decorations." Napoleon's cross was composed of diamonds. The wily traitor was contemplating the *Coup d'État*, and he wisely judged that the master of a small regiment of men, and owner of a vast storehouse of keen steel instruments, had better be a Bonapartist than a Republican.

Some twenty years ago M. Charrière handed over his business to his son, who, however, died soon after. The father again took his old place, but had altogether retired for several years before his death. His successors are two of his pupils, Messieurs Robert and Collin. To this firm was awarded a diploma of honour (the chief prize) by the jury of the Vienna Exhibition.

MISNOMERS.

THE *Laboratory*, published at Boston, U.S., gives a useful list of products which pass under names to which they are not strictly entitled. We commend the series to the notice of those fastidious analysts who trouble themselves so much because the public will insist on asking for a certain well-known compound under the style of "milk of sulphur;" on designating another favourite "citrate of magnesia;" and require that their soda water shall be free from any alkaline flavour:—

Cat-gut is not the gut of cats, but of sheep.

Kid gloves are not kid, but are made of lamb skin or sheep skin.

Arabic figures were not invented by the Arabs, but by the Indians.

Tube-rose is no rose, but the tubercous palianth (*Palianthes tuberosa*).

Salad oil is not oil for salads, but oil for cleaning callets or salades—i.e., helmets.

Black lead does not contain a single particle of lead, but contains only carbon and graphite.

Turkish baths are not of Turkish origin; nor are they baths at all. They are hot-air rooms.

Prussian blue does not come from Prussia, but is the precipitate of the salt of protoxide of iron with prussiate of potassa.

Brazilian grass does not come from Brazil, or even grow in Brazil; nor is it grass at all. It consists of strips of palm leaf, and is chiefly imported from Cuba.

Whale-bone is no bone at all; nor does it possess any properties of bone. It is a substance attached to the lower jaw of the whale, and seems to strain the water, which the creature takes up in large mouthfuls.

Sealing-wax is not wax at all; nor does it contain a single particle of wax. It is made of shellac, Venice turpentine and cinnabar. Cinnabar gives it the deep red colour, and turpentine renders the shellac soft and less brittle.

Burgundy pitch is not pitch, nor is it manufactured or exported from Burgundy. The best is a resinous substance, prepared from common frankincense, and brought from Hamburg; but by far the largest quantity is a mixture of rosin and palm oil.

Copperas contains no copper, but consists of the sulphate of iron.

Cobalt, sold as a fly-poison, contains no cobalt; but consists of impure metallic arsenic.

Red precipitate or red oxide of mercury is not made by precipitation, but by heating the nitrate of mercury: when precipitated it has a yellowish colour.

COCA LEAVES (*ERYTHROXYLON COCA*).

We have published in our last two numbers much practical detailed information respecting the coca leaf and its alleged properties, but as the plant is not likely to be familiar to many who have not the opportunities of seeing it grow at Kew or in the Royal Botanic Gardens, we give a representation of the



shrub, showing its inflorescence. No 1 shows the entire flower; 2, the calyx; 3, the petals, with the scales of the nectary; 4, the stamens, united at the membrane which encircles the ovary; 5, the same united at the open membrane; 6, the pistil, with the three styles; 7, the drupe or entire fruit; 8, the nut, with the envelope removed; 9, the same cut transversely.

FILTERS AND TYPHOID GERMS.

A discussion has arisen between Dr. Tripe and Mr. Wanklyn, originated by some statements made with rather characteristic dogmatism by the latter gentleman at a recent conference at the Society of Arts, to the effect that typhoid germs could with certainty be removed from dangerous water by efficient filtration. Dr. Tripe thinks that as Mr. Wanklyn's process may not be sufficiently delicate to detect every one of the minute organisms, or even spores of these organisms, which exist in water, and which are called typhoid germs, and, further, that as it is not yet beyond the possibility of doubt that these so-called typhoid germs are really the occasion of typhoid fever, Mr. Wanklyn's *certainty* on so important a subject is, to say the least, premature. In the last issue of the *Sanitary Record* Mr. Wanklyn answers this attack vigorously. He maintains that his process is capable of converting any kind of albumenoid matter into ammonia; but this is hardly to the point. The question is whether it is possible to detect the ammonia so formed from, say, a dozen germs in a pint of water. Whether this be so or not, Mr. Wanklyn proceeds to give a very striking record of the effects of some filtrations on which he has himself experimented. He claims that all chemists acknowledge the high organic purity of deep spring water.

"And why," he asks, "is deep spring water so pure? Because it has undergone thorough filtration; because it has passed through hundreds of feet of porous material, and in some instances taken many years in traversing this porous material.

"The artificial purification of water was investigated by me (he continues) in the year 1872, when I showed that a thickness

of about six inches of the admirable filtering material with which the Silicated Carbon Filter Company furnishes its filters avails to do the work which in nature is done by the hundreds of feet of porous strata traversed by the water of deep springs. My experiments are published in the *British Medical Journal* for the year 1872. I showed that when a dirty river water is passed through some six inches of the filter it becomes as pure as 'West Middlesex' water, and that by repeated passage through the filter it becomes as pure as a deep spring water. More than that, I established the nature of the process of filtration which goes on in porous filters of this description. It is an energetic oxidising process, very like the action of the strongly alkaline solution of permanganate with which we are in the habit of boiling the nitrogenous organic matters contained by drinking waters. Just as by working the ammonia-process we make the nitrogenous organic matters in drinking water yield ammonia, so the silicated carbon filter breaks up nitrogenous matters, and makes them yield ammonia. In fact (though the modification is not practically to be recommended for general adoption by chemists), it is possible to work the ammonia-process of water-analysis by means of a silicated carbon filter, instead of the boiling alkaline solution of permanganate of potash.

"I have, at this moment, open before me my note-book, wherein are recorded experiments on the oxidation, not only of drinking-water, but of urine and of milk, by the silicated carbon filter, and I can assure Dr. Tripe that just as no germ is capable of surviving passage through a furnace at a white or red heat, so in like manner no germ will survive passage through any considerable stratum of good porous filtering medium."

MILK OF SULPHUR.

The Birmingham stipendiary magistrate has recently reversed, though somewhat reluctantly, the judgment of his neighbours, the Coleshill justices, in the matter of milk of sulphur. Mr. Kynnersley has at least stated his reasons for arriving at the conclusion recorded with satisfactory clearness, and the point at issue can, therefore, be readily brought before the Court of Queen's Bench, as it appears is to be the case. One feature in the trial at Birmingham deserves a special remark. The borough analyst, Dr. Alfred Hill, in giving evidence, felt himself "justified in assuming" and asserting that the sale of this particular milk of sulphur was a "fraud." It is monstrous that these analysts should be permitted to utter their insults in open Court without being reprimanded. It was Mr. Kynnersley, and not Mr. Alfred Hill, whose place it was to declare whether the practice in question was fraudulent or not, and the respect which he owed to his court might have induced the magistrate to express his opinion a little less mildly than by gently suggesting that Dr. Hill had only meant legal and not moral fraud. In the famous spirits of nitre case at Westminster, Mr. Arnold very sharply rebuked the analyst for his presumption in thus usurping the magisterial duty, and the lesson is one that sadly needs to be repeated.

From the evidence before him, aided too much we fear by the private opinions of a medical man who happened to be on the bench, and to whose "invaluable assistance" Mr. Kynnersley expressed his "deep obligation," the magistrate arrived at the conclusion that milk of sulphur and precipitated sulphur are or should be identical substances. Now it happens that the past half-dozen generations of our forefathers are witnesses to the contrary. The Pharmacopœia of 1746 may be "obsolete and exploded," as Mr. Kynnersley declares; but every druggist in Great Britain could testify that the article therein ordered under the name of milk of sulphur, that and no other, is still in existence and is in constant demand. That article is a combination of sulphur and lime. We are not called upon to explain why this combination has acquired such favour; the fact properly supported ought to suffice to settle the case. The point that the compilers of the Pharmacopœia may have since introduced something different under that or a different name by no means

affects the question so long as we can show that their new substance has never been able to supersede the old-established compound in popular favour.

Vexatious as is the repetition of these trials on a question more suited for metaphysical discussion than for the practical investigation of our courts of justice, there is nevertheless a point of view from which they may be regarded with some satisfaction. They at least serve to indicate that the analysts, with all their perverted ingenuity, can find no reasonable cause of action among the pharmaceutical practices of this country. To talk of fraud in this connection is puerile, and only serves to show how unfit are those who thus use the word to assume official functions in any way related to the interpretation of the law. We can hardly hope that our trade is so immaculate as the analysts seem determined to have us believe; but until they display their skill on an investigation somewhat more elaborate than the detection of sulphate of lime in milk of sulphur we can hardly feel concerned about our morals, or hopeful of their education.

THE EXEMPTION OF IRISH PHARMACEUTICAL CHEMISTS FROM JURY SERVICE.

A CHARACTERISTIC sentence occurs in our report of the proceedings of the Irish Pharmaceutical Council this month. Our honoured friends and *confrères* in Dublin are not a little hurt at being abandoned by their once familiar friend and most obedient servant the Chief Secretary, on the prospect of the exemption of Irish pharmaceutical chemists from jury service. Sir Michael Hicks Beach seems desirous of cutting his quondam friends, and he somewhat curtly declines to accede to their request. The council have, therefore, again turned to their earliest acquaintance, Mr. Errington, the Home Ruler, who has promised to fight the claim for them in committee on the Irish Jury Bill. In advocating the exemption in the council, Mr. Holmes said he might bring forward many arguments in support of the request, but he would only mention one, and that was, English pharmaceutical chemists are exempt! This, too, is the sole argument relied on in asking Irish members generally for their support of Mr. Errington's amendment. Nothing could have been wiser, and we can imagine the groan of indignation with which this view of Sir M. H. Beach's injustice must have been received. We cordially wish the Irish chemists success, but we are forced to add that if they get what they ask for, British chemists and druggists will have real reason to complain until they are equally favoured, inasmuch as they stand on precisely the same level, except in name, as Irish pharmaceutical chemists. This occurrence, however, is a proof of the benefit the Irish pharmacutists may likely enough secure by the possession of the title which was once the exclusive property of the English society.

COUNTER PRESCRIBING IN FRANCE.

THE practice is not altogether unknown among the excellent *pharmaciens* of *outré-mer*, but certainly it has not been practised to the same extent as in Great Britain. The question of its legality has, however, been settled only recently. According to French law a *pharmacien* may sell to the public under certain conditions the preparations of the Codex, and they may combine these preparations on the prescription of a physician, making a compound remedy. The question came before the Court of Limoges whether a *pharmacien* might supply such a compound remedy himself, without the order of a physician, and in accordance with his own medical judgment. The Court of Limoges, basing its opinion on common custom, and on con-

siderations of humanity, said yes. On appeal to the Cour de Cassation the previous decision was reversed. According to the judgment delivered in this court on March 25 last, any such proceeding on the part of a *pharmacien*, except in cases of absolute and urgent necessity, is an illegal exercise of medicine, in contravention to the law of 19 Ventose, year xi.

HOMŒOPATHIC PHARMACY IN GERMANY.

IN France, as well as in Germany, the trade in homœopathic medicines by persons other than those duly qualified is contrary to the strict letter of the law. But the two countries are not equally particular in the enforcement of their legal restrictions. M. Ariel, of Strasburg, who also owns the sounding title of Count of Recke-Volmerstein, was charged on the 26th of January last with an infringement of the statute by selling homœopathic medicines, he not being an apothecary, and was sentenced to a fine of five shillings and one day's imprisonment.

CHEMICAL SOCIETY.

Thursday, May 18, 1876.

PROFESSOR ABEL, F.R.S., president, in the chair.

The first paper read after the usual business of the society had been transacted was "On the Action of Malt Extract on Starch," by Mr. C. O'Sullivan, showing that under these circumstances it is converted into a mixture of maltose and dextrin, the proportion of which varies with the temperature at which the reaction takes place. A communication was then made by Dr. H. E. Armstrong and Mr. Gaskell "On Metaxenol," the metadimethylated phenol. There were also papers "On the Gases enclosed in Cannel Coals and in Jet," by Mr. J. W. Thomas; "On Phenomena accompanying the Electrolysis of Water with Oxidisable Electrodes," by Dr. J. H. Gladstone and Mr. A. Tribe; and "On the Estimation of Hydrogen occluded by Copper, with special reference to Organic Analysis," by Dr. J. L. W. Thudicum and Dr. H. W. Hake.

Thursday, June 1, 1876.

PROFESSOR ABEL, F.R.S., president, in the chair.

The ordinary business of the society being concluded, a paper "On Hemine Hematine and a Phosphorised Substance contained in Blood Corpuseles," by Dr. J. L. Thudicum and Mr. C. T. Kingzett, was read by the latter. Professor W. N. Hartley then made a communication "On the Natural Carbon Dioxide from various sources," being a continuation and extension of his former paper on the presence of liquid carbonic anhydride in the cavities of quartz and other minerals. Mr. Kingzett subsequently read a "Note on some Trials of Frankland and Armstrong's Combustion Process in Vaeuo," by Dr. Thudicum and himself. Mr. T. Fairly gave a short account of three papers, "On Peroxides," in which he described various reactions with hydrogen peroxide and also the preparation of sodium and uranium peroxides, "On Chromic and Perchromic Acids," and "On the Estimation of Nitrogen." The secretary read a paper by Professor J. W. Mallet "On Aluminium Nitride and the Action of Aluminium on Sodium Carbonate at a High Temperature." The nitride forms small crystalline particles of a yellow colour. Lastly, Mr. E. Neison gave a short account of "A Process for the Estimation of Mercury." The meeting was then adjourned until Thursday, June 15, which will be the last of the season.



THE VALUE OF SCIENTIFIC SERVICES.

AN action was tried in May in the *Nisi Prius* Court, at Guildhall, before Mr. Justice Blackburn, and a special jury, between Dr. Thudicum (plaintiff) and the Liebig's Extract of Meat Company (defendants).

Dr. Thudicum's case was that in 1869 he had written a pamphlet in favour of the defendants' extract of meat, for which he had been paid 52*l.* 10*s.* His usual charge for a pamphlet was 200 guineas, and he contended that he took a less sum in consideration of being made chemist to the company. This action was now brought for not employing the plaintiff, and also for a money claim in the following circumstances:—The plaintiff's pamphlet was the cause of a Chancery suit brought against him and the defendants, and the money claim in this action was for services in preparing a defence and obtaining scientific evidence for the company. The company had paid all Dr. Thudicum's law expenses as a co-defendant in the Chancery suit, but declined to pay his personal expenses or for his services as a witness, on the ground that such services were not rendered by their request, but were, in fact, for the plaintiff's own use and defence.

The jury, after retiring for some time, returned into court with a verdict for the defendants on both counts.■

DIVORCE CASE.

At the Divorce Court, lately, the President and a special jury had under their consideration the cause of Slack *v.* Slack and Redman. It was the petition of Joseph Kershaw Slack for a dissolution of his marriage, on the ground of the adultery of his wife Maria with Wallace Redman, the co-respondent. The respondent appeared, and denied the adultery, and made certain counter charges against her husband, but these were not proceeded with.

The petitioner was formerly employed as assistant to Mr. Stewart, a chemist and druggist, who carried on a superior kind of business at Birkenhead. Mr. Stewart had several daughters, one of whom was the respondent, and she fell in love with Mr. Slack, and he with her. They got married secretly, and afterwards the petitioner went into business at Prescott, and he and his wife, who, by some good-natured friends, were supposed to be courting, were invited to their houses, so as to meet; but it was alleged that the respondent did not avail herself of opportunities which arose for meetings. She went to Prescott and saw the house the petitioner had, but did not stay there. After a time she sent word that she was going out as companion to a lady who was about to proceed to Australia, and asked her husband to give her means to get out there. He questioned her as to the passage and the person she mentioned, and her answer was that she was at an hotel in Liverpool, but she would afford no further information. Subsequently she eloped with the co-respondent, and went with him in the ship *Colombo*, from Hull to New York. Soon after she returned, and asked her husband to take her to his home, and said in a letter that it would be better for him "to make the best of a bad bargain." He, however, refused, and from what he heard he had inquiries made, and the result was that these proceedings were instituted.

Mr. Slack, the petitioner, stated that his wife desired the marriage to be kept secret. He had often asked his wife to make the affair known, and wanted her to come and reside with him. The marriage took place on January 8, 1872, at St. Nicholas's Church, Liverpool. After he was in business at Prescott his wife came over to see him several times.

A witness, named Hollingworth, who was second steward on board the *Colombo*, proved that two persons who booked as "Mr. and Mrs. Jones" were passengers by that vessel to New York. The photograph that the petitioner had identified as that of his wife was a likeness of the lady. They occupied the same cabin.

The jury found for the petitioner, and the learned Judge granted a decree *nisi* for a divorce. No order as to costs.

MILK OF SULPHUR.

A VERY important trial, involving the right to sell milk of sulphur as such, was opened at the Birmingham Police Court on May 22, before Mr. T. C. S. Kynnersley and Dr. Heslop.

Richard E. Hughes, grocer and drysalter, of Prospect Row, was summoned at the instance of Chief Sanitary Inspector Woolley, for selling, on February 19, as pure, two ounces of milk of sulphur which was adulterated, thereby infringing the Sale of Food and Drugs Act. Mr. Herbert (instructed by the Town Clerk) appeared in support of the summons, and Mr. Rowlands defended.

Mr. Herbert, in opening the case, remarked that, even supposing the adulteration did not render the sulphur injurious to health, defendant was bound, if people preferred it in that state, to affix a label stating the nature of the article. The prosecution desired the Court to decide whether the poor people who purchased that article should be forced to pay the same price for the impure as ought only to be charged for the pure. It would no doubt be contended, as in the case at Colleshill, that milk of sulphur and precipitated sulphur were distinct articles but he should show that they were the same, and that the ingredient with which the compound sold by the defendant was adulterated was injurious to health.

Having proved the purchase, Mr. Herbert called—

Dr. Hill, borough analyst, who stated that of thirteen samples submitted to him only three were adulterated with sulphate of lime, all the others being pure. All lime salts had constipating powers. The sulphate of lime contained in impure milk of sulphur was very injurious to health, and sulphate of lime was certainly not unavoidably mixed in milk of sulphur. There was an alternative mode of preparation which precluded the presence of sulphate of lime. Witness, in support of this statement, gave the Pharmacopœia history of *lac sulphuris* and *sulphur præcipitatum*. Since 1809 all the Pharmacopœias directed that the milk of sulphur should be prepared with sulphur, lime, and hydrochloric acid. Sulphate of lime was a fraud on the purchaser. Of the 335 grains of the preparation sold as sulphur by the defendant there would be only two drachms of pure sulphur. Cross-examined by Mr. Rowlands: Witness thought sulphate of lime was not unavoidably mixed with milk of sulphur, because sulphuric acid was used in the preparation when hydrochloric acid might be used. No pharmaceutical chemist should manufacture otherwise than as directed by the Pharmacopœia. The mixture sold by the defendant was decidedly injurious.

Mr. Rowlands said the question was whether there were two distinct kinds of sulphur known to the trade and the world at large—one as milk of sulphur and the other as precipitated sulphur. If the Bench were satisfied on that point then there would be an end to the case. He pointed out that several eminent "chemical experts" had proved beyond doubt that precipitated sulphur and milk of sulphur were different articles, and on that ground a similar case was dismissed by the Leeds stipendiary. It was a question which affected the whole of the trade as well as the public, and would be taken to the highest Court if necessary.

Dr. John Anthony said his attention had been directed to the question of milk of sulphur. There were two preparations—one called milk of sulphur, and one precipitated sulphur. They were totally different, and he could not imagine how one could be taken for the other. They were altogether different in appearance, in their modes of action, and physical qualities. Sulphur præcipitatum would not mix with water, and the public did not like it, and they would not have it as a substitute for milk of sulphur, to which they had been accustomed. The latter was readily mixed in water. Sulphate of lime was not added to the milk of sulphur; it was produced in its preparation. He was sorry he could not agree with Dr. Hill, who had stated that the milk of sulphur in question was injurious to health. On the contrary, it was beneficial to health in many cases, and instead of being a constipative it was a laxative, and for the latter it was freely used. In cross-examination by Mr. Herbert, he admitted that the public generally did not know that there were two kinds of sulphur. He was not surprised to hear that out of thirteen samples of milk of sulphur purchased ten were pure, because the chemists would be so terrified by proceedings such as these that they would sell it pure. He did not call the milk of sulphur such as was sold by the defendant pure or impure, for it was simply a cheap relaxative for the poor, and was used by a large number of the population.

Mr. Alfred Bird, chemist and druggist, of Worcester Street, Birmingham, stated that during his experience of more than half a century he had known that the preparation of milk of sulphur and sulphur præcipitatum were two distinct substances, and a chemist ought to keep both. If milk of sulphur were asked for, and the druggist supplied sulphur præcipitatum, he would be blameable. He would say, for himself and on behalf of the whole trade, that the chemists and druggists had no desire to sell lac sulphuris; but if the public asked for it he, as a fair and honest chemist, should not feel justified in refusing to supply it. In reply to Dr. Heslop, witness said if that gentleman came to his shop and asked for milk of sulphur he would supply him with lac sulphuris.

Mr. Wm. Jones, chemist and druggist, of seventeen years' experience, stated that his predecessor, Mr. Morris, supplied the milk of sulphur to the defendant. Milk of sulphur and sulphur præcipitatum were two distinct preparations, and were kept separately in stock. The milk of sulphur he sold in large quantities, while the precipitated sulphur was not in much request.

Mr. John Sumner, grocer, Mr. Edward Powell, chemist, and Mr. Henry Sanderson, chemist, gave confirmatory evidence.

The case was then adjourned for a week, Mr. Kynnersley intimating that he would then give his decision.

Mr. Kynnersley delivered judgment on May 29, at the Birmingham Police Court. He said he should like to ask, in the first instance, whether druggists would consent in future to use a distinctive label stipulating that the article they retailed as milk of sulphur contained sulphate of lime?

Mr. Tanner (Rowlands & Bagnall) having consulted with his client, said, although Mr. Hughes would be perfectly willing, individually, to do this, still the case was looked upon as a representative one, and there were a number of persons who felt strongly on the subject, and would most likely object to concede to such a proposal. He thought it would be better, therefore, if the magistrates gave their decision upon the facts as proved.

Mr. Kynnersley accordingly gave the following decision:—On Monday, May 22, the defendant Richard Hughes appeared before Dr. Heslop and myself on a summons obtained by Robert Woolley, inspector of nuisances for the borough, under the 38th and 39th Vic., c. 63, sec. 6, which enacts "that no person shall sell to the prejudice of the purchaser any article of food or any drug which is not of the nature, substance, and quality of the article demanded by such purchaser," under a penalty not exceeding 20*l.*; and it was proved that on February 19 George Leaton, acting under the instructions of Mr. Woolley, went to the shop of the defendant, who is a drysalter and grocer in the borough, and asked for two ounces of milk of sulphur, and received from him as such milk of sulphur two ounces of a powder which was subsequently analysed by Dr. Alfred Hill, borough analyst, and found to contain, according to the certificate which was produced to us, 67 per cent. of sulphate of lime and 33 per cent. of pure sulphur. The certificate also stated that the article was a fraud and injurious to health. Dr. Hill, also, on examination, gave it as his opinion that it was so injurious because the effect of sulphate of lime, like all lime salts, would be to constipate the bowels, and to promote the formation of calculi, if there was any tendency in the constitution to such secretions. I may mention here that this opinion was controverted by Dr. Anthony, a witness called by the defendant, who stated that in his judgment sulphate of lime was not only not injurious to health, but that the sulphur was made more laxative by its addition. But I confess his evidence did not carry conviction to my mind. Dr. Heslop did not agree with him; and certainly I never heard that children's confectionery was improved by sulphate of lime being largely used in its composition. Now, it was not contended on the part of the prosecution that the presence of so much lime was an adulteration in the sense of a deliberate addition to the sulphur, nor is the term adulteration used at all in the present statute, and when Dr. Hill speaks of it as a fraud he means, I am sure, a legal, not a moral, fraud; but it was contended that the article complained of was prepared according to the formula of an old-fashioned, obsolete, and exploded Pharmacopœia of 1746, which necessarily involved the presence of sulphate of lime; whereas if it had been prepared as it ought to have been, in accordance with all the more recent Pharmacopœias, it would have been wholly free from lime, which Dr. Hill and others consider an unnecessary and a noxious ingredient, and, therefore, that the article sold was not of the "nature, substance, and quality demanded by the purchaser," and that

the sale of it was "to his prejudice." The fact as I understand it, is this:—In order to produce milk of sulphur (lac sulphuris) or sulphur præcipitatum (for it is contended by the prosecution, and, as I think, I shall show, justly contended, that the two are synonymous and convertible terms) it is necessary that the sulphur and lime should be boiled or heated together in water, and treated with the addition of an acid. Under the Pharmacopœia of 1746 the acid employed was sulphuric acid, and this involved the formation of a substance called sulphate of lime, which only requires drying or heating to become the well-known plaster of Paris. This is mixed with the sulphur, and is the identical article sold by the defendant, except that the proportion of lime appears to be much larger than in any of the other cases that have been made the subjects of prosecution under the section. In all the recent Pharmacopœias the acid employed is hydrochloric or muriatic acid, and in this preparation the lime wholly disappears, and the produce is the pure sulphur præcipitatum, which contains no lime at all. I may not be technically exact in this description, but that is what I understand to be the case. The value of the latter is exactly double that of the former; and the question is whether a person who sells under the same name with the pure article a mixture of which only one-third is pure sulphur and two-thirds plaster of Paris does not come under the provisions of this statute as selling a drug which is not of the nature, substance, and quality of the article demanded. Now, the defendant contends, and calls several most respectable chemists—gentlemen of the highest possible character—to support him, that milk of sulphur (lac sulphuris) and sulphur præcipitatum are totally different things, that lac sulphuris is not sulphur præcipitatum, and sulphur præcipitatum is not lac sulphuris; that the substance containing lime is properly called lac sulphuris, and the substance which does not contain it is properly called sulphur præcipitatum, and that this is a distinction well known and acted upon by all druggists, grocers, and drysalters, and therefore he does no wrong in selling the impure article under the name of milk of sulphur, which he contends is the article demanded under that name. But I am convinced that this is a position which cannot be maintained. The evidence in this case is entirely against it. On the same day on which the article in question was purchased from the defendant as milk of sulphur twelve other purchases were made of milk of sulphur from other tradesmen. In ten of them the article was found to be pure sulphur præcipitatum without a particle of lime, and in only two others was any lime detected. Moreover, in a general trade list which was shown to us the two articles appeared under the same name, "sulphur præcipitatum," but with this distinction: the first was what the defendant calls "milk of sulphur," but attached to it was this note, "This contains sulphate of lime." The other, the price of which was exactly double that of the first, was described as "pure," and this really appears to be decisive on the whole question. Moreover, in Dr. Pereira's "Materia Medica," and in several other books of undoubted authority, the pure article is called by both names—lac sulphuris and sulphur præcipitatum, and the impure one is not recognised at all, or, if it is, it is distinguished as containing sulphate of lime. This being the case, can it be just and right that the practice advocated by the defendant of selling the impure article under the same name and at the same price as the pure should be allowed to continue? I think not, and it ought to be put a stop to, and therefore I am of opinion—and in this I am most happy to say I am borne out by Dr. Heslop, to whom I beg to record my deep obligation for the invaluable assistance which he has most kindly afforded me, though he is not responsible for the language in which I have conveyed my opinion or the reasoning which I have employed—that a person who sells as milk of sulphur an article which contains only one-third part of pure sulphur and two-thirds of plaster of Paris does sell to the prejudice of the purchaser a drug which is not of the nature, substance, and quality of the article demanded by such purchaser. If, as is stated, there are many persons who prefer the impure article on the ground that it is more easily miscible with water, by all means let them have it, but let them demand it *eo nomine*, and let it be sold with a distinctive label, stating, as in the trade list, that it "contains sulphate of lime." There can be no hardship in this to the druggist, but without such label I think it ought not to be sold as milk of sulphur. I should be very glad if the trade generally would have consented to adopt such a distinctive label, and to relieve me from the necessity of pronouncing a decision which will,

fear, give pain and offence to many most respectable tradesmen; but as I must decide the question, I must do it according to what I believe to be consistent with law and common sense. It is a great comfort to me to know that my decision may be very easily questioned by an appeal to one of the superior courts, and it is most desirable that a matter which is considered of such importance—though I confess I think the importance is a good deal exaggerated—should be finally settled. My decision must therefore be in favour of the prosecution, but the object is not to punish for an act the illegality of which has been denied, but to declare it illegal and prevent its repetition, I impose merely a nominal penalty of one shilling, and make no order about costs.

Mr. Tanner applied for a case, which was granted. He said he thought the better course would be to go to the court of Queen's Bench instead of the Court of Quarter Session, and he would take the necessary steps in the matter.

LONDON BANKRUPTCY COURT.

CULLOCH & PERRIN, Chemical Merchants, 9 Mincing Lane.

The debtors, Hugh Thomas McCulloch and Henry Perrin, trading in co-partnership under the firm of McCulloch and Company, filed their petition for liquidation by arrangement or composition on May 18, and on the following day Mr. Nutt, of the Probate Court, applied to the court for the appointment of Mr. George Harris, accountant, 9 Mincing Lane, as receiver under the proceedings. In support of the application he read an affidavit of Mr. McCulloch containing the following statements: The liabilities of the firm were estimated at 17,200*l.*, but about one-half of this amount was secured by the deposit of goods or warrants and delivery orders for goods, and the total amount that would rank against the estate for dividend would be about 800*l.* The assets consisted of a stock of chemical goods of a value of between 100*l.* and 150*l.* in the warehouse, No. 5 Gun Square, Houndsditch, and a small balance of cash there; book debts, bills of exchange, and securities for money were outstanding of the estimated amount of 200*l.*; various parcels of goods were held to the debtors' order at sundry warehouses and wharves; there was also a balance to be received from the secured creditors, after allowing for the amount of their debts, besides furniture and other articles in the debtors' office in Mincing Lane. Some of the creditors who held goods or other realisable securities had, in consequence of the non-payment of their debts, realised such securities, and others were likely to do so at any moment, and in all probability the amount so realised would be far less than the same were redeemed and sold without being forced into the market—an actual loss of 80*l.* having already accrued upon a forced sale. Of the book debts and securities for money due to the firm some had fallen due, and the debtors were unwilling to pay the same on the appointment of some proper person to receive the amounts; and other moneys were coming due and would require collection before the first meeting. At the warehouse in Gun Square the sum of 15*l.* was due for rent, and 15*l.* further would be shortly due, and the landlord of the premises (in order to satisfy the first mentioned rent) had taken possession of a quantity of prussiate of potash of a much greater value than the amount of such rent, and if the same was sold it would undoubtedly be at a great loss. At the office in Mincing Lane the sum of 20*l.* was due for rent, and the landlord was in a position to levy a distress at any moment. Among the assets were chemicals at the mills of Messrs. Lander & Crosby, which had been left for grinding, and the same, though very valuable, were detained in respect of a small charge for grinding. In order that the property might be protected it was necessary that a receiver should be appointed. In reply to the Registrar, Mr. Nutt stated that the application was supported by some of the principal creditors, and His Honour appointed Mr. Harris to the office of receiver. The following was the preliminary list of creditors, secured and unsecured:—

	£	s.	d.
J. Caudery & Co., 150 Fenchurch Street	3,430	0	0
Whester & Holland, 34 Eastcheap	2,223	18	7
Charles & Fox, 3 Mincing Lane	2,146	15	0
W. J. Spence & Co., 31 Lombard Street	1,667	8	11
The Consolidated Bank, Threadneedle Street	1,386	5	5
Jul. Pammer, 59 Mark Lane	1,050	13	0
Van Dulken & Co., Rotterdam	732	2	8

	£	s.	d.
W. S. Groom, 14 Mincing Lane	422	9	9
G. Boor & Co., Artillery Lane	378	17	4
W. G. Scott, Lancaster Place, St. John's Wood	369	0	0
Flachfield & Co., 25 Savage Gardens	362	13	10
The National Bank	331	8	5
Dunn Brothers, Pall Mall, Manchester	211	7	2
W. A. Scott & Co., Queen Street, Newcastle	204	14	3
V. Gibbons, 9 Mincing Lane	195	10	0
W. C. Bacon, 14 Mincing Lane	194	13	2
Banks & Co., Pontyminster Works, Newport	192	8	8
Wilton Chemical Company, Liverpool	142	6	11
Great Western Railway Company	141	0	0
Jessop & Humble, 43 Mincing Lane	126	9	0
W. Northen, Union Pottery, Vauxhall Walk	86	10	7
R. L. Hiekes, 24 Billiter Street	76	1	5
George Cook, Millwall	73	19	11
R. B. Byass & Co., Fairbeech, Glamorgan	60	9	4
Scott & Co., Marshgate Lane, Stratford	59	9	6
D. Morris, Burton Ferry, Glamorgan	56	0	9
Pinehin & Johnson, Cable Street, E.	44	12	2
Lethbridge & Co., Queen Victoria Street	40	0	0
E. Boughton & Co., Pontardulais, Carmarthen	39	6	0
T. Budding, Pontyminster, Newport	34	14	0
R. G. Clements, Commercial Sale Rooms, E.C.	30	0	0
Tingle & Jacobs, 14 Billiter Street	30	0	0
H. Pound & Son, 100 Fenchurch Street	27	1	0
J. Hartshorn, 169 Campbell Road, Bow	26	12	11
Allen & Co., 7 Cowper Street, City Road	25	14	5
Leiderman & Co., Fowkes Buildings, E.C.	21	2	0
Major & Field, Thames Street	20	19	0
Mansell Tin-Plate Company, Glamorgan	19	11	11
M. Berkley, 9 Gracechurch Street	19	2	0
W. H. Nott & Co., Covent Garden, Liverpool	17	12	9
F. B. Wallace & Co., Tower Buildings, Liverpool	16	2	11
Joseph Barber & Son, Brewer's Quay, E.C.	16	0	2
W. France, Stanton's Wharf, Tooley Street	13	17	5
Webb, Warton & Co., East Smithfield	13	11	10
Jenkins & Co., St. George's Wharf, Camberwell	11	19	1
J. Draper, 5 Little Tower Street	11	17	1
T. Richard & Co., 40 Gracechurch Street	11	14	0

SEPARATE CREDITORS OF MR. MCCULLOCH.

	£	s.	d.
Sewell & Crosby, 13 Fenchurch Street	56	12	6
W. B. Cranwell, 3 Tower Royal	50	0	0
F. Napier, 2 Bedford Terrace, Balham	26	5	0
Waite & Sanl, 36 Crutched Friars	20	0	0
L. Fisebel, 43 Mincing Lane	20	0	0
F. Salisbury, 51 Moorgate Street	17	12	6
F. Smith, 14 Green Street, Blackfriars	16	0	0
F. J. Smith, 3 Upper Bedford Place, Russell Square	15	6	8

Mr. Perrin states that he has no separate creditors.

F. LYON, Druggist and Soap Maker, 59 Watling Street.

A FIRST meeting under this bankruptcy was held on May 17, before Mr. Registrar Hazlitt. The adjudication was made upon the petition of Messrs. Wm. A. Scott & Co., merchants, Newcastle-on-Tyne, in respect of a debt of 79*l.* 16*s.*, the act of bankruptcy being the non-payment of the amount pursuant to the terms of a debtor's summons. No accounts were filed, and in the absence of a quorum of creditors an adjournment became necessary. At the adjourned meeting held on May 31, debts to the amount of 1,270*l.* were proved, and Mr. W. Dormer, accountant, 33 Moorgate Street, was appointed trustee; Mr. Bruce, 62 Robertson Street, Glasgow, and Mr. John Sanderson, of 181 Clapham Road, being nominated a committee of inspection. June 27, at 11, was fixed for the bankrupt's public examination.

ELLIS & WHITLOW, Chemical Manufacturers, Old Ford.

THE debtors, Edward John Ellis and James Whitlow, trading in partnership as above at the Avenue Chemical Works, under the firm of Ellis & Co., Whitlow also carrying on business as a merchant at 59 Mark Lane, presented their petition under the liquidation clauses on May 24, and on the same day Mr. Brough applied to the court for the appointment of Mr. A. A. James, accountant, 110 Cannon Street, as receiver and manager of the estate, and for an interim injunction staying further proceedings in several actions. The joint debts were about 500*l.*, and the separate debts of Mr. Whitlow about 10,000*l.*; and Mr. Ellis, in his affidavit, stated that the assets of the joint estate consisted of stock, about 100*l.*; book debts, 180*l.*; machinery and plant which cost about 700*l.*; and the goodwill of the business. The business of chemical manufacturers at Old Ford was now being carried on at a weekly profit of about 20*l.*, and if stopped the value of the goodwill and machinery would be much depreciated. The firm had a contract on hand for the supply of about three loads of sulphurous acid per week to one of its customers, and also a regular order for ten tons of sulphate of alumina per week;

other orders were also coming in daily. Mr. Registrar Murray, under the special circumstances, appointed Mr. James to the office of receiver and manager as requested, and granted an interim restraining order. The following are the principal joint creditors:—

	£	s.	d.
Tangye Brothers & Holman, Laurence Pountney Lane	96	0	0
W. C. Bacon, West Ham Chemical Works	89	16	8
Pontifex & Wood, Shoe Lane	83	1	7
H. Thompson, 3 Great Benet's Place, E.C.	50	19	6
P. Longstaffe & Son, Regent's Canal Basin	40	9	6
F. Warren & Co., Great Eastern Coal Depot	36	16	0
J. B. Whistler, Plaistow	35	7	0
City of London Real Property Company (Limited)	16	9	10
T. & W. Geere, Stratford	15	8	1

SEPARATE CREDITORS OF MR. WHITLOW.

	£	s.	d.
Broughall & Co., 62 Cornhill	3,624	3	3
Wm. Broughall, 62 Cornhill	2,000	0	0
Rennie, Tetley & Co., Aldermanbury	1,886	8	4
Rothwell, Marshall & Co., Little Tower Street	1,247	13	9
G. & R. Dewhurst, Manchester	1,000	0	0
The Alliance Bank	600	0	0
Strachan & Thomas, Yokohama	400	0	0
G. Repden, 69 Mark Lane	334	10	3
Stewart, Thomson & Co., Manchester	200	0	0
Shephard & Co., 91 Great Tower Street	139	13	6
Farbridge & Co., Manchester	52	0	0
Mrs. Budd, Croydon	37	0	0
Trustee of Mr. F. Hammond, 3 Crosby Square	22	6	6

On May 31 the court continued the interim injunction, without opposition, until further order.

T. W. FENWICK, Chemist and Druggist, Stamford.

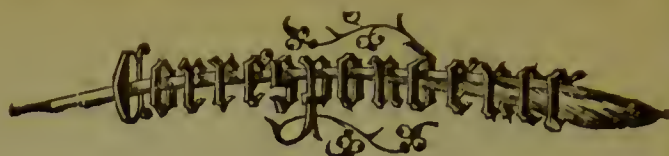
THE adjudication in this case was made in March, 1875, and the proceedings were afterwards transferred from Stamford to the London Court by resolution of the creditors. A scheme of settlement provided for the payment of a composition of 1s. 6d. in the pound in satisfaction of the debts and the annulment of the bankruptcy; and on June 1 Mr. E. C. Willis applied to the court on behalf of Mr. Lewis Hand, solicitor, for an order that the trustee should pay him 58l. 11s. 3d., being the amount of his taxed costs. After hearing Mr. Willis in support of the application, and Mr. Buckler in opposition, Mr. Registrar Brougham ordered that the trustee should pay the amount claimed out of any funds in his hands applicable to such payment.

EDWARD HARVEY, CHEMIST, DRUGGIST, AND OILMAN, WEDNESBURY.

A MEETING of creditors in the matter of a petition filed under proceedings for composition or liquidation by arrangement by this debtor, carrying on business as a chemist, druggist, and oilman, in Wednesbury, was held at the offices of Mr. Sheldon, solicitor, Wednesbury, on the 26th ult. Mr. Sear was elected chairman, and Mr. Sheldon represented the debtor. There were also present Mr. Harrison (Birmingham), Mr. Holcroft, Mr. Bayliss, Mr. Broadhouse, &c. The statement of account showed—liabilities, 775l.; assets, 200l. The debtor, who had been in business nearly twenty years, assigned the reason of his stoppage to the action taken by a Bristol firm, who had pressed him, and his deficiency to the general depression of trade, and illness in his family. Great sympathy was expressed towards the debtor in the position he was unfortunately placed, and a composition of 5s. in the pound, in four instalments of 1s. 3d. each, was unanimously accepted. C. W. Whitehouse was appointed to receive and distribute, and Mr. Sheldon to register the resolutions. The following are the principal creditors:—

	£	s.	d.
Barron, Harvey & Co., Giltspur Street	153	3	11
Parnell, Webb & Co., Bristol	79	11	0
Evans, Sons & Co., Liverpool	60	0	2
Holcroft, C. T., Wednesbury	58	3	10
Matthews & Co., Bristol	38	12	10
Ganderton Brothers & Co., Hull	34	18	9
Fox, F. F., Bristol	30	11	6
Bayliss, Benjamin, Wednesbury	26	5	3
Baines & Co., Liverpool	19	5	6
Stony, Witty & Co., Hull	13	14	1
Arthur & Sons, Bristol	16	4	2
Goodlass, Wall & Co., Liverpool	12	9	3
Cooper, Adams & Wilson, Burslem	12	3	6
Lloyd, G. & W., Wednesbury	11	19	0
Kendrick, Phineas, Wednesbury	11	11	10
Mappin, John, Birmingham	10	0	0
Butler, John, Wednesbury	10	0	0
Sheldon, Hamett, Wednesbury	50	0	0

And 30 creditors under 10l.



THE CONCENTRATION OF SULPHURIC ACID.

REPLY TO THE LETTER OF MR. SELLON PUBLISHED IN THE MAY NUMBER OF "THE CHEMIST AND DRUGGIST."

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—We regret that the firm Johnson, Matthey & Co., instead of submitting to the judgment, which appears to have so forcibly struck them in the person of their friend and furnisher of acid Mr. Wallace, allow themselves, by the pen of Mr. Sellon, the use of recriminations of a violence and inaccuracy which absolutely force us to refute them.

We will occupy ourselves but little in trying to clear up whether they tried in this affair to prevent the introduction of England of our apparatus, by preparing in concert with their friend an easily feigned failure, or by means of the threat of their failure to force us to pay a considerable commission, or by any other interference. There is a legal principle which counsel in order to find the true culprit, the search of the person who the evil action benefits. If the public or the judges had sought as Mr. Sellon believes, the firm Johnson, Matthey & Co., behind Mr. Wallace, they would have made in our opinion a judicious application of this principle. We call attention to the fact that if this firm has not alone sustained the weight of the Wallace trial, they have not been consistent with their promise because, in a letter read at the lawsuit, signed Sellon, and dated May 12, 1874, which we quote below, they threatened us that they would protect against all lawsuits the manufacturers who would employ, without paying the royalty, our apparatus, the platinum of which they would supply at a low price, if they did not engage to command from them all our basins, everybody. In reality they furnished to Mr. Wallace the platinum of our apparatus at a low price, and we refused to them make all our basins. If, then, they did not protect themselves against us (first they promised, and then they saved themselves from doing it), they are wrong to execrate the judges so much for that gives the air of being guilty. Let them at least pretend to have been ignorant of our discussions. Our adversaries have invoked their testimony against the good workability of our apparatus (and the working of this one has been judged good in spite of this testimony). We have been summoned with Mr. Wallace to their office to try to prevent the lawsuit, and we have our hands full of their letters, attesting that they were interested in our affairs since January 1, beyond orders—but we only publish these:—

June 24, 1876

Dear Sir,—I have just received your letter of this morning, and I endeavour to see Mr. Wallace in order to arrange something.

Yours truly,

JOHN SELLON

London, June 25, 1876

Dear Sir,—We have seen Mr. Wallace to-day. He says that he cannot do with you, except upon the condition that you reconstruct the machinery his manufactory, at your own expense. If you will do this he has promised to try it. He will be glad to see you when you are disposed to come and converse with him about this business at his house or here.

Accept the marks of my highest esteem.

JOHN SELLON

Mr. Sellon pretends that the adoption of our apparatus by a firm, far from being disadvantageous, had been for them a source of profit, but that they preferred to sacrifice their own interest to that of their client. The following letter which we promise to quote will show how much of this solicitation one ought to believe.*

May 12, 1876

Messrs. Faure & Kessler.

Sirs,—We have learned with astonishment that you do not intend to supply by us with the basins in platinum, but that, on the contrary, we have arranged with your agents here that all these articles for which we receive orders shall be forwarded from Paris. We cannot understand this attitude after the friendship that you have always shown for us, and

* It is right to remark that these letters are obviously translations. The originals were put in at the trial and were written in French.—ED. C.

the trouble and loss that we have suffered on your account. We certainly thought that a little later you would throw all possible business to our hands.

As for your patent, we know well that it is worth nothing as a "patent." The process is an economy, that is another thing, and we demand the profits; but as a patent, it is not worth the paper upon which it is written. These are the proofs. The manufacture of sulphuric acid in open basins is altogether ancient. There are manufactories here which have employed these basins for the last twenty-nine years with a dome of lead. As for the system for passing the acid from one basin into a second, we exhibited at the Exhibition of 1862 a complete system for passing it into the small boilers, two or three in combination, and in a manner very superior to yours (1). We published this system with our drawings and photographs. Now, we do not receive an assurance that you will direct to us all the orders that you receive for your basins in platinum, we will publish all the details and inform all the manufacturers of chemical products in Europe that we will furnish them with basins (if they wish to adopt this system) at the actual price of the platinum, and that we will send them all the drawings and details necessary for the putting up of it, with considerable improvements and without any expense. In representing to them that your patent does not exist, that is to say, that it is worthless, *and that we will protect them from all lawsuits*, and in showing them that the price which you ask for your apparatus is two or three times its intrinsic value.

If you take all that you require from us, it does not matter to us whether your patent exists or not; nor what the price is at which you sell your apparatus and your services (2); but if we find that you will not enter into relations with us, we suffer a direct loss that we will not sustain upon any conditions whatever.

The affair rests with you. Our price at this moment for these basins is per lb. to you, and 21s. per lb. for all other persons. We have heard that you have established fourteen of these apparatuses, and we have the names of the principal manufacturers who have set them up; for their and our benefit we will write to all these persons in a week from hence, and will publish the affair in the journals at the same time, if you continue to treat us in bad faith as at present (3).

Your servants,

JOHNSON, MATTHEY & CO.

The handwriting is Mr. Sellon's.

All this statement is fictitious, and we will give the proof to those who ask for it, also the opinion of Messrs. Johnson, Matthey & Co., expressed to ourselves by letter in 1863 and 1864, and revelations yet more vexatious for them, if they force us to do it.

Such is the passage to which we have made allusion above.

This insult is not only gratuitous, since we had neither a promise nor given a hope to MM. Johnson, Matthey & Co., but it will be turned against themselves if they force us another time to publish.

It is quite true that we always offered to this firm, upon the apparatus that they should sell for us, outside any agreement, an allowance deducted off our profit and not off the price by the manufacturers; but it is true also that they wished an allowance to be secured to them by an agreement, even for transactions which we, directly and without their help, effected. All this, in guarding their liberty to compete against other apparatuses. This agreement is written by the hand of Mr. Sellon. However, the affair stopped there, because, as Mr. Sellon was pressing us to sign, we heard from many that his firm continued to calumniate our apparatus at the same time that they extravagantly praised others more or less absurd. We feared then that the firm Johnson, Matthey & Co. sought the monopoly of our invention in England only to embarrass themselves of a competition hurtful to their old and their new apparatus. It is certain that the allowance offered by us, in diminishing greatly the difference between the price of our apparatus and theirs, would have been instrumental in facilitating this manœuvre. The existence even of the agreement could, we thought, be turned against ourselves, as they could say to their clients, "Look! it is more our interest to adopt the apparatus of Messrs. Faure & Kessler, but we refer your interest before our own, and if we prevent you from buying it, it is surely a proof that we are sincere." We now know that we were not mistaken. This conduct decided us to find a security against a like eventuality: it was not given, we refused our signature to the agreement.

It is visible, then, by all these expedients, which show to what lengths inventors are exposed, that the firm Johnson, Matthey & Co., with whom we compete for the benefit of the French manufacturers, had but one end, viz., to uphold as long as possible the apparatuses containing the greatest weight of platinum. Apparently they found that they could gain more from their sale and purchase than we could offer. They calcu-

late admirably, but the interest of their clients is completely sacrificed, as we have seen. As for the perfect honesty and earnest desire with which they pretend that Mr. Wallace has "experimented" our apparatus, it is sufficient to give the following from a letter of Mr. Wallace, jun., a young man full of promise, but a too candid interpreter of his father, to show forth the measure of it to our readers.

Ebenczer House, New Road, Battersea Park,
April 14, 1874.

Dear Sir,—I have not been able to answer your letter sooner, having had a pressure of other business, as Mr. Russell will no doubt have told you. I write this letter to you immediately upon my return, in my private capacity, in order to avoid a great deal of future unpleasantness; inasmuch as a translation of your letter to my father would very likely break off our connection altogether.

If you ever supposed that for 2 per cent. we were going to make every effort to ensure publicity to your apparatus you are much mistaken, and, for my part, if I had known your treatment of us would be such, I should have made no effort at all even to introduce your system, and I am equally sure that you would not have found any one else to do it.

Now I think that 10 per cent. on the total cost would be a fair remuneration for my trouble, inasmuch as I should have a good deal of travelling and writing to do, and be obliged to keep an extra clerk, &c.

If you do not agree to these terms you need not trouble to write another letter. In case you do consider it worth while to write another letter, I shall tear up yours of December 4, and do my best to give every publicity immediately to your apparatus, and to heal up any ill-feeling your letter may have occasioned. And if your reply be favourable your apparatus will be at work again next Monday; if not, never in our factory. I shall wait till Monday for another letter, but if I do not hear from you then I shall translate your last letter to my father. In the meantime you had better tell Mr. Kessler that we expect him to put off his visit, unless you agree to my terms, in which case we shall be pleased to see him whenever he likes to come. Of course, next Monday, if you send us a favourable letter, I shall forward the translation of circular and my list, if not, I shall send a circular to all that know of your apparatus, saying that we have abandoned it, and of course the agency as well. Your next letter will decide whether we are to be friends or foes; for my part I would prefer the former.

Yours truly,

R. W. WALLACE.

Mr. Sellon adds a phrase which our French laws make us consider an enormity, rendering possible a condemnation at the police court:—"That Mr. Wallace should be mulcted in heavy charges consequent upon his losing the trial is, in my opinion, one of the most unjust results ever arrived at in an English court of justice." Who will make us believe that English justice, more costly it is true, but also more careful, than any other, would have favoured by "such an unjust result" strangers who did not even know the language, and who were without any possible influence.

In fact, all this part of Mr. Sellon's article is of a rare inaccuracy. The truth is that our adversaries have been defeated upon their claim that a patent apparatus had been sold to them, but that a non-patented apparatus had been furnished to them. And notably the refrigerant delivered was not patented.

Mr. Sellon touches afterwards upon questions more interesting to the reader. He tries to depreciate the value of an apparatus which has proved its worth everywhere, and which the most competent authorities have honoured by classing amongst the most remarkable improvements in the fabrication of the chief of chemical products.

First, he pretends that there would be every advantage in using the ancient apparatus because we ask two or three times the price of the platinum that ours contain. We reply that he has much exaggerated, since he has omitted to say that our price includes the setting-up of the apparatus, and that at the same time we guarantee its good working ability and the quantity produced. In any case we give the figures, which are more clear than any comment.

We offer now, without help in the setting-up of it, but with all the plans and indications necessary for the setting-up of it alone, an apparatus guaranteed to make in 24 hours an acid of 66° commercial—

Density from 1.835 to 1.839, viz., with only one basin—

2 tons for 340l.	3 tons for 480l.
2½ tons for 400l.	4 tons for 690l.

With two pans, very well adapted for concentrating at 1.842 density—

4 tons for 690l.	6 tons for 840l.
5 tons for 790l.	9 tons for 1,200l.

Our apparatus can make a third more than the quantity guaranteed; thus, that of 6 tons belonging to St. Gobain, at Aubervilliers, gives easily from 8 to 9 tons in 24 hours.

Nor do these prices represent a profit so enormous upon the value of the platinum, for the apparatus of 4 tons, costing 690*l.*, contains pure platinum worth from 440*l.* to 480*l.* It can produce from 5 to 6 tons of acid at 66°, and corresponds to an ancient alembic weighing from about 80 to 100 lbs., and valuing from 1,600*l.* to 2,000*l.* Mr. Sellon advances that it is indifferent for the manufacturer to sacrifice in platinum a sum as large as the difference between the two prices, because, says he, the platinum bought at its intrinsic value is always realisable without much loss.

Will he allow us to tell him, even in supposing that the manufacturer has more capital than he wishes to put into his works, that the current price of platinum changes from single to double, so there is a great risk of unfortunate realisation. One thing is indisputable, and that is, there is always a loss of about 4*l.* per lb. upon the exchange of old platinum for new, a sum which upon the aforementioned 80 to 100 lbs. amounts already to from 320*l.* to 400*l.* Let us count the loss on this point at 200*l.* only. The wear is ten times greater than in our apparatus. Thus 2 grs. per ton upon 5 tons of acid, 8*s.* 4*d.*, or 144*l.* per annum, instead of 14*l.* 8*s.* 4*d.*—difference about 120*l.*, or 1,800*l.* during the fifteen years that the alembic lasts.

Thus the manufacturer, in letting lie idle 1,800*l.*—600*l.*, or 1,200*l.*, by the purchase of a heavy alembic, loses in the interest of this 1,200*l.* about 1,360*l.* at the end of fifteen years. We do not speak of the rest, the economy of fuel, &c., which gives a still greater saving. It will be seen as well that an alembic with a difference of 62 lbs. in the weight of the platinum costs to the manufacturer after fifteen years—

Loss by the depreciation of platinum, at least	..	..	£ 200
Loss by the wearing of the platinum in the acid	..	..	1,800
Loss of the interest of superfluous capital	..	..	1,360
Total loss	..	..	3,360

and there remains yet the chance of accidents forcing this heavy mass of platinum to be renewed in a short time.

2nd. Mr. Sellon speaks of the danger presented by the water employed around our basins: we are accustomed to reply to this fear by pouring, at a single throw, a bucketful of water into the funnel of the pipe which introduces the acid into our basins while in full action. The greatest leakage that could be produced could never yield an equal quantity of water, and even in this case not an exterior sign is seen.

3rd. He insists upon the defect of our refrigerant in lead, but nothing necessitates the use of it. This apparatus is adopted in thirty manufactories, where it gives universal satisfaction; but we offer the choice of two other refrigerants without an atom of lead. Mr. Muspratt, of Liverpool, has chosen our refrigerant of burnt earth.

4th. We respond almost nothing to the assertions that we employ more water and fuel than the ancient apparatus. Our water goes out at 212° Fahr.; all the temperature that it carries off serves for cooling. This, then, is a childish objection. We employ from 2½ to 3 cwt. of coal to bring a ton of acid at 1.835 density from 1.500, and we evaporate with that all the weak acids. Let those who know how to compare, compare.

Mr. Sellon denies the value of our patent, and he engages the manufacturers to buy the platinum for our basins without thinking of us. Doubtless in the private correspondence, when he solicits them, he promises also to protect them against anything that we could do. We have seen how he screened his firm from having protected Mr. Wallace, and how to-day he leaves to him all the moral weight of his condemnation.

We have too high an opinion of English manufacturers to suppose for an instant that, for a premium of so small value, assuring to them the necessary co-operation of our experience, they will consent wantonly to throw themselves into discouraging uncertainties, and into legal embarrassments, by refusing to persevering inventors the fruit of their labours and sacrifices, of which they (the manufacturers) have the principal profit.

If Mr. Sellon begins again upon this subject we will show to our readers that this firm did not feel many doubts upon the value and patentability of our invention when, in 1863, they concluded an agreement with one of us to try and make this system of apparatus with leaden dome succeed. The question of the validity of our patent is at this date decided. It is supported, after examination, by the United States and other countries, by the reports of all the learned, and by medals from

the exhibitions of Vienna and elsewhere, and further by the judgment—so competent—of thirty manufacturers who have paid us in total about 16,000*l.* or 20,000*l.* of royalty.

5th. As for Mr. Sellon's hope to have an apparatus soon belonging exclusively to his firm, which he is at present trying to make, and the (hoped-for) results of which will be to diminish, to a great proportion, the outlay at present necessary for the ancient alembics, it appears to us that these attempts have lasted rather long. Immediately after the rupture of our connection with Mr. Wallace, a new apparatus, formed of two flat alembics, leaning one on the other, did duty at Battersea Park under the title of an invention.

We do not pretend to deny to others the right to search, but it is not by such yields, nor by borrowing from us a detail here and there, that hope is permissible.

In fact, the end of Mr. Sellon's article is admirably destined to gain time for the realisation of this hope, but at all event the manufacturers, to whom an apparatus and not the hope of an apparatus is necessary, will do well not to count upon attempts which have been going on for years, and which have little more foundation than the allegations of Mr. Sellon upon the injustice of an English tribunal which has condemned his friend.

Clermont-Ferrand :

FAURE & KESSLER.

June 6, 1876.

THE DEFENCE ASSOCIATION.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—I can't help thinking that your correspondent "Gravesend," in the May number of *THE CHEMIST AND DRUGGIST*, exhibits a considerable want of consistency in his arguments.

First of all, he states his opinion to be that we as a body suffer from "want of unity" among ourselves; and that this is the reason of our "numberless complaints."

He then proceeds to declare the "real cause, the fact of the being no society having the sole object of improving the position of its members in a trading point of view."

And yet, after urging these considerations, he is the very first to commence a process of *dis*-union, to suggest captious objections, and thus to endeavour to frustrate the only real and practical attempt ever made towards the attainment of the remedy he and, I presume, most chemists besides, hold to be essential.

His letter certainly gives me the impression, that so long as no real endeavour is made towards this object of a defence society, he is silent; but directly an advertisement appears from a practical and enterprising body of men (asking assent to a certain actual proposition, but merely the consideration of *any*), he then rushes into print, to throw cold water on the proposal, and thus is the first to strike the chord of *dis*-union, which he rightly deplores, in this way furnishing striking commentary on his own text.

As I understand Messrs. Southall's advertisement, they desirous of merely affording an *opportunity* for discussion and organisation, and are only undertaking this small duty because no one else moves in the matter, or is likely to move.

I think if "Gravesend" would contribute his support to a proposition which is advanced already, and which has as yet objectionable features, instead of sighing for an unlikely theory, he will then have less reason to complain of the lack of union amongst chemists and druggists.

I remain, sir, yours faithfully,

ORDEE

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—I think the more searchingly we examine the chart and bye-laws of the Pharmaceutical Society contained in the Calendar, the better will be our position for profiting by the kind proposal of Messrs. Southall Bros. & Barclay; to mind there is much to be thought of before such an association should perform *permanent* functions.

The work done by the Pharmaceutical Society since its commencement should be studied and summarised by division of labour according to some general but comprehensive plan, wherein would be kept steadily in view the difference between

work of routine and that performed with reference to trade alterations and requirements, whether arising from the formulated special meetings or otherwise.

It may be, as I stated in my letter published in your March number, that we are to blame for the severe experiences which we and our families are at present undergoing; perhaps we ought to have strengthened the hands of the Pharmaceutical Society by our association or membership and afterwards enforced a complete representation of our interests. The opinions expressed in this communication are derived more especially from a consideration of the italicised portions of the following summary of the Royal Charter of 1843.

Summary.—Recognition of the Pharmaceutical Society of Great Britain by Government, from a desire to encourage the objects represented by the promoters of that society.

Objects mentioned are three correlative ones, namely:—

1. Advancement of Chemistry and Pharmacy, and a uniform system of education.
2. *Protection of those who carry on the business of chemists and druggists.*
3. Provision of a fund for relief of distressed members, &c.

Remainder of charter relates principally to—definition of Pharmaceutical Society, council, members, quorum, &c., with their relative functions; recognition and limitation of the material power or individuality of the society and council, with insignia relating to same; reorganisation of different parts of the society, continuity; fixation of general meetings and detailed methods of conducting various functions; method of convening *special meetings*; *power of making bye-laws*, and their province, *i.e.*, *assumption of the adaptation of the regulations of the society to the requirements of the trade.*

I am, sir, yours truly,

JOHN BARKER SMITH.

May 19, 1876.

THE BUOTT FUND.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

MY DEAR SIR.—May I again ask you to allow me to acknowledge the annexed subscriptions, in addition to those previously published, in aid of Mr. Buott?

The fund is now closed, and the sum realised is 89*l.* 14*s.* 6*d.* I am very grateful to all those who have so kindly aided in helping Mr. Buott. I have duly placed the fund raised in Mr. Buott's hands.

I am, my dear sir, yours faithfully,

205 St. John Street Road, E.C.:

ROBT. HAMPSON.

June 11, 1876.

	£	s.	d.
Mr. W. S. Barton, London	0	10	6
Mr. W. R. Jones, Birmingham	1	1	0
Mr. John Abraham, Liverpool	1	1	0
Mr. Joseph Atkinson, Tynemouth	0	10	6
Mr. John Collishaw, Bombay	0	10	6
Mr. Jabez Waterhouse, Ashton-under-Lyne	1	1	0
I. G., Stourbridge	0	3	0
Mr. E. G. Carrington, Bakewell	0	5	0
Mr. H. Staffell, Hounslow	0	10	0
Mr. Ed. Hammerton, Colchester	0	10	0
J. F. C., Wakefield	0	5	0

TO THE SUBSCRIBERS TO THE BUOTT FUND.

GENTLEMEN,—I am deeply impressed with the aid you have promptly rendered me under circumstances of sore affliction; if anything could exceed the value of your pecuniary assistance, it is the knowledge I gather from the correspondence accompanying your subscriptions that you are mindful of my years of laborious effort to improve the educational and mercantile status of chemists and druggists, and to harmonise conflicting opinions and interests by a union of the trade under the Pharmacy Act, 1868.

My family and friends esteem this correspondence as a testi-

monial of my service to the trade, and will hold it in proud but grateful remembrance.

Permit me, gentlemen, to thank you, in the simple language of earnest truth, for all your kindness.

I cannot more sincerely express my grateful appreciation of Mr. Hampson's goodness in originating the Buott Fund and conducting it to a successful issue with much inconvenience and loss of valuable time to himself, than, in the simplest form of speech, to say to him, as I say to you from my heart, I thank you.

At the special request of Miss Buott I associate her with myself in this acknowledgment of your timely benevolence, and desire to remain,

Your faithful servant,

CYRUS BUOTT.

Upper Holloway, N.:

June 12, 1876.

A BLOODTHIRSTY DRUGGIST.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—It may interest some of your readers to know that Charles Grimes, who was committed for trial for shooting at police officers (see *Daily News*, April 26), was in business as a chemist and druggist, in Sheffield, in 1867.

He had been an army dispenser in the Crimea, and even showed his warlike inclination in his perfume labels. One called "Le Bombardier" runs thus:—"This new and refreshing perfume will be found to possess some very extraordinary qualities. It will completely cover the smell of gunpowder, so objectionable to those noses that are not by nature of a pugnacious character. It will also effectually disguise the odour of stale tobacco, of which the uniforms of our gallant volunteers are apt to become so redolent, making them at once presentable in the ball-room straight from the battle-field. Being itself a pure spirit of high quality, it is believed that its constant use by volunteers will tend to preserve, and indeed create, a proper *esprit de corps*. It is strongly recommended by the 'bravest of the brave' to the 'fairest of the fair.'" He left the trade to study for the medical profession.

If you think proper you may make use of this in your next issue in any way you like.

I am sir, yours respectfully,

Mirfield: May, 22, 1876.

CHARLES CROOK.

PHOSPHORUS PILLS—Messrs. Allen & Hanbury recommend in the *Pharmaceutical Journal* the following substitute for Pil. Phosphori, B.P., which they think is not likely to be ever generally used. They call their pills *Pil. Phosphori cum Sapone*:—

R. Phosphori, gr. ij.
Carbon Bisulphid., ℥x. vel q. s.

Solve.

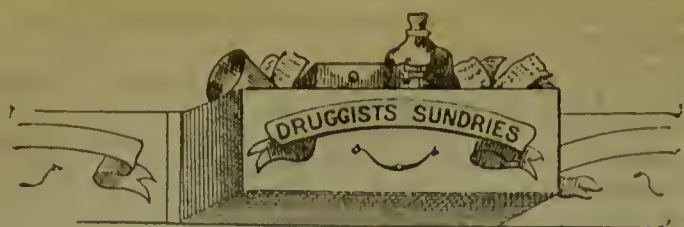
Pulv. Saponis dur.
,, Guaiaci Resin, āā gr. xxxv.
Glycerin., gtt. xij.
Pulv. rad. Glycyrrh., gr. xij. vel q. s.

ut fiat massa gr. c. To be divided into pills of the strength required, and varnished or "coated" in the ordinary way.

The mass thus formed is of good consistence, easily manipulated, readily miscible with other remedies, and what is most important, readily soluble. It is hardly necessary to add that the very volatile bisulphide soon evaporates. Mr. Haffenden (Brighton) says he has found phosphorus pills made according to the subjoined formula (Dr. Corfe's) keep their consistence and properties remarkably well:—

Mucilage,
Powd. Sugar,
Reduced Iron,
Quinine,
Phosphorus.

By means of a water bath an emulsion is made of the phosphorus and mucilage, the powders mixed in while still warm, and then worked up in a mortar in the usual way; they require to be quickly coated.



At the outbreak of the American war, when patriotism was somewhat more abundant than knowledge of anatomy, the question was put to a candidate for surgeon's position in a Cincinnati regiment, "What is scarpas triangle?" To which he replied: "What is the use of asking a man fool's questions like that, when his country's flag is trailing in the dust?"

"CHEMIST," writing to *Nature*, remarks:—"For giving instruction to one person in the art of poisoning without detection, the medical student, Vance, is undergoing the very lenient punishment of 18 months' imprisonment. What would be the appropriate penalty to inflict upon the responsible editors of newspapers who initiate the public generally into Vance's secret?"

Mr. Wm. GILMOUR has made some valuable observations in regard to the testing of the fixed oils by means of the spectroscope. These are recorded in last week's *Pharmaceutical Journal*. From his notes it appears probable that such a method of testing when fully investigated will give a much more precise method of detecting adulterations in the fixed oils than any that we now possess.

EGGS PRESERVED BY SILICATE OF SODA.—Dr. Duraud, pharmacist, of Blois, has discovered a very efficient means for the preservation of eggs—i.e., a solution of silicate of soda. This solution, being very viscous, is kept in a liquid state by the addition of tepid water. The eggs are dipped into the solution and then dried; when they have been thus treated, and are well dried, and completely covered with the silicate solution, they can be placed in any receptacle, and may be kept for a year or more without undergoing decomposition.—*Révue Thérapeutique*.

ALUM, TANNIN, AND OXIDE OF ZINC IN STICKS.—When these substances are to be carried into the neck or body of the uterus they are liable to break and become troublesome. It has been attempted to incorporate them with glycerine, but unsuccessfully. M. Duquesnel is using gutta-percha, which he mixes with the medicinal substance by means of heat. Whilst the combination is still hot it is rolled into cylinders a few lines thick, which hardens on cooling. It remains to be proved that the astringent effects are not hindered by the gutta-percha.—*Lancet*.

VESICATING COLLOID.—Messrs. Gale & Co., of Bouverie Street, Fleet Street, have brought under our notice a blistering agent under this name. It is prepared by exhausting powdered cantharides by means of acetic ether and alcohol. The cantharides is tightly packed in a percolator, and the ether and spirit passed through until it is quite exhausted. To this solution a sufficient quantity of pyroxylin is added to convert it into collodion. This is next rendered flexible by the addition of Canada balsam and castor oil. The preparation is a powerful vesicant, and has the great advantage of not spreading like the ordinary blistering liquids.—*Lancet*.

QUACK TREATMENT.—On May 2 a platelayer, named Thomas Lewis, employed at Denbigh Station, had the end of his thumb cut off by an accident with a pulley. He had it properly dressed at the infirmary, but afterwards, acting on the advice of his friends, he went to some people living near the town who do a large trade amongst the poor people. They put some ointment upon the wound and gave him a lotion, but as inflammation of a shocking character developed itself, Dr. Griffiths Roberts was called in, but the man died a few days later. Dr. Roberts stated at the inquest that the people had dressed the wound with "resin salve," a very strong irritant, and that when the inflammation set in they applied to the arm a lotion containing as much sugar of lead as would poison three or four horses. The man died from blood poisoning, and witness altogether condemned the treatment of the amateur surgeons. There was nothing in the injury to cause death had the man been properly treated. This was confirmed by Mr. Darbyshire, of the Denbighshire Infirmary, and after a severe denunciation of the evils of quackery by the coroner, the case was adjourned for further evidence.

Trade Notes.

Mr. C. HESTER has purchased the business of Mr. J. L. White, of 45 St. Loyes, Bedford.—Mr. J. Maxwell has removed from Northampton to Biggleswade.—Miss Isabella Skinner Clarke has opened a pharmacy next to the Westbourne Hotel, opposite the Great Western Station, Paddington.—William Saunders Baker has taken the business lately carried on by Hales Simpson, Clacton-on-Sea.

* *

OUR GAZETTE last month announced the dissolution of partnership of Messrs. Baiss Brothers & Co., the wholesale druggists. We should have added that this notice concerned the firm only in respect to the withdrawal of Mr. James Baiss, jun. The firm at present consists of Mr. James Baiss, sen., one of the original partners, his son, Mr. Sydney Standring Baiss, and Mr. Arnold Baiss, son of the late Mr. William Arnold Baiss. The retiring partner is another son of Mr. James Baiss. Naturally the two younger gentlemen are now the active managers of the business. Messrs. Baiss Bros. & Co. have recently removed from Leadenhall Street to new premises in Jewry Street, Aldgate, about three minutes' walk further east. There they have erected a large and most commodious building especially suited to their trade. It consists of seven floors, including basement, but not reckoning the flat roof which is usual of wholesale drug warehouses. All these floors are closely packed with stock, and the various departments of the house are evidently in vigorous prosperity. The laboratory is close to, but separate from the main building, and is very lofty, an extreme advantage for those engaged in that building, and no less so for the rest of the *employés*. In another part of this journal Messrs. Baiss Bros. & Co. direct attention to some of their specialities.

* *

MR. N. G. WILCOCKS, of Bath, manufacturer of soda water machinery, advertises in our pages that he is prepared to supply his machines on the "hiring system," conducted in a manner similar to that in which pianofortes are now so frequently sold, the machines becoming the property of the hirer after a certain series of payments.

* *

WE HEAR THAT the old-established firm of Messrs. Thomas Marsden & Sons, wholesale druggists, formerly of Queen Street, Upper Thames Street, and late of Tabernacle Row, is broken up, and the connection of the firm transferred to Messrs. H. & Son, wholesale druggists, of Southwark Street, Borough.

* *

THE DIRECTORS of Liebig's Extract of Meat Company have issued their report for the year 1875. An available balance is shown of 53,756*l.* 13*s.* 10*d.*, out of which it is proposed to pay interest at 6 per cent., or 24*s.* per share, and a bonus of 4 per cent., or 16*s.* per share, also to place 8,000*l.* to the reserve fund, and, after other small payments, to carry 4,375*l.* 17*s.* 11*d.* to the new account.

* *

MR. T. C. SANDS, of Bradford, supplies in neat sixpenny packets, mounted on cards, a detergent which he names Ladies' Friend. It will remove grease spots from silks, woollen and other fabrics without leaving any mark. It is a powder, to be used in a dry state.

* *

DR. C. M. TIDY has been appointed lecturer on Chemistry at the London Hospital, *vice* Dr. Letheby.

* *

THE PERSONAL ESTATE of the late Dr. Letheby has been sworn under 25,000*l.* He leaves all his property to his wife.

* *

ONE DAY last month a Crewe chemist extracted a tooth for a young man named David Williams. From that time the gum constantly bled, and though the services of a doctor were secured, Williams died a few days afterwards of hæmorrhage.



RMS.—Announcements are inserted in this column at the rate of one penny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word.

Name and address are not included, one penny per word must be added. A number will then be attached to the advertisement by the publisher of THE CHEMIST AND DRUGGIST, and all correspondence relating to it must be addressed to the "Publisher of THE CHEMIST AND DRUGGIST, 111 Buildings, Cannon Street, London, E.C.," the envelope to be marked also with the number. The publisher will transmit the correspondence to the advertiser, and with that his share in the transaction will

FOR DISPOSAL.

Mr. "Chemistry," now. 36/224.

Steam engine, about 12 horse-power, a bargain, 40*l*. Particulars of N. G. Wilcocks, Bath.

Species jars (Maw's illustrations fig. D, p. 115); two 8-gal. earboys, for disposal; half value. 15/223.

Still and worm tub, suited to a common fire, cost 23*s*., price 10*s*. Steward, Birkhead's Road, Reigate.

Fly papers, superior quality, 14*s*. 6*d*. per 1,000, carriage paid. Fortune, Chemist, Anstruther.

Quinine.—100 ozs. Pelletier's quinine in 1-ounce bottles, offered at 6*s*. 6*d*. per ounce; usual discount. 19/53.

Iron mortar, weighing 28 lbs., in perfect condition. Mr. Nicholson, 28 Park Crescent, Oxford.

Mortar, marble; what offers? Inside measurement across, 3½ inches; deep, 8½ inches. Alexander, Huntingdon.

Dispensing bottles, flat and oval, 4-oz., 8*s*. 6*d*., 6 & 8-oz., 12-oz., 16*s*., 16-oz., 17*s*. 6*d*. per gross. Andrews, Eastbourne.

Soda-water bottles, about 100 of Messrs. Mayo, Watson & Co.'s make, to be sold with all faults at 6*s*. per dozen. Davis & Co., Chemists, Bath.

Bargain. A soda-water and lemonade machine, second-hand, by Barnett; will make about 150 dozen per day; price, 4*l*. N. G. Wilcocks, Back Street, Bath.

Lescher's pharmacy microscope, perfectly new and complete, cost 5*l*. 15*s*. 6*d*. H. E. Stevenson, 32 Coram Street, Brunswick Square. No cards.

Excellent receipts for perfumes, including, "New Mown Hay," "Rondeletia," "Indian Floral Bouquet," &c., 4*s*. H. Masters, 111 Commercial Road, Newport, Mon.

Bin. lens and camera, 12*s*. 6*d*., worth 35*s*.; good brass counter scales, copper bowl, 14*s*. Stamp for reply. Appleton, Attorecliffe.

Lescher's 2*l*. 2*s*. Materia Medica Cabinet, 130 specimens in mahogany case, scarcely used, price 24*s*. E. Hall, 78 St. Stephen's Plain, Norwich.

Handsome dispensing screen, 6 feet 3 long, case at each end, looking-glass centre, and marble slab in front, 8*l*. Amicus, 27 Lancaster Road, Preston.

Gallon globes, two 1-gallon globes, about 10 dozen peppered rounds, 16, 20, and 32 ounces; a pair brass counter scales on mahogany box; 27 vols. *Pharmaceutical Journal*, old series; Redwood's "Practical Pharmacy;" brass counter scales. Green, Christchurch.

Mahogany desk and glass case, 2 ft. 5 in. long, 2 ft. wide, 2 ft. 6 in. high, style similar to fig. 39 Maw's list, no carving. Price 4*l*. or offers. Arkas Sapp, Basingstoke.

Counter scales, as Maw's fig. 1, box and beams, 16 inch, perfect, nearly new. Price 25*s*. Thomas Taylor, 81 High Street, Peckham.

About 56 lbs. syrup. violæ ver. nov., bottles 2½ lbs. each (bottles free), at 9½*d*. per lb.; about 50 gallons mixed oils (droppings), fined, casks extra. What offers? Nicholson, Brigg.

Litre Wine Agents. A quantity of the company's sherries, ports, clarets, Champagnes, Marsulas, hocks, Burgundies, Moselles, &c. Offers wanted. Hole & Hollingworth, Mansfield, Notts.

Maw's 5-gr. pill machine, marble slab, to cut 24 pills, nearly new, offers wanted; also 5-gr. pill machine, wooden slab, to cut 24 pills, quite new, in exchange for one to cut 2 or 3 gr. pills. Amooore, Chemist, Sevenoaks.

Forceps. Maw's circular-pointed right and left upper molars, good condition; also right and left upper molars, upper incisors, lower bicuspides, Stevens's; Foxe's key; want repolishing; seven elastic gum, 1 boxwood, pessaries. Offers wanted for any of above. Smart, Chemist, Steyning.

Mahogany plate-glass case, for showing toilet articles and cigars, length, 38 inches; depth, 28 inches; height, 26 inches; movable shelves and silvered glass back, which opens; 4*l*., very cheap. Spouncer & Sons, wholesale druggists, Gainsborough.

Fifteen works on Homœopathy, 25*s*.; set of *Pharmaceutical Journal*. Offers. Miller's "Chemistry," 3 vols., 20*s*., cost 2*l*. 10*s*.; and several works on medicine, physiology, chemistry, entomology, &c. Cheap. List sent. H. Davies, 18 Mortimer Street, Cavendish Square, London.

Mahogany sponge case and soda water stand, marble top (Maw's), 23 inches wide, 17 inches deep, 33 inches high, as good as new, 5*l*. 15*s*., cost 7*l*. 10*s*.; sea medicine chest, second-hand, similar to Maw's fig. A, for 21 men and upwards, containing 41 bottles, in good condition, 35*s*. Andrews, Eastbourne.

The mahogany cornice, shelving, and brackets; about 120 mahogany-fronted labelled drawers, lockers, counters; dispensing screen, closets, and glass case over. To be seen, immediately, at Mr. Harris's (who is moving to new premises), No. 3 Laura Place, Sydenham; price 24*l*. Apply to W. Hawke & Son, shop fitters, Wild Court, Great Wild Street.

A very handsome dispensing screen, 6 feet 3 long, plate-glass case at each end, looking-glass centre, with marble slab in front, fitted at back with 3 shelves—a bargain, 8*l*.; a 6-foot bent plate-glass counter case, 18 inches wide, 8 inches high, without shelves, 8*l*. Both are in first-class condition. Address E. C. N., 23 Colveston Crescent, Ridley Road, Kingsland, London.

Embossed plate-glass tablet, 31 by 21, "Dental Surgery" and key pattern border; dental show case, for angle of door pillar, circular fronted; mahogany fitting, 7 feet 6 by 4 feet 3; 3 drawers and enclosed cupboard, with shelves and return cornice, nearly new and complete, for surgery or chemist's inside room; two such cases may be had separately, or the lot, as the owner is leaving. Apply at No. 1 Portland Road, Notting Hill, W.

Fixtures and utensils suitable for grocers, oilmen, druggists, &c., superior mahogany and marble top counters, from 9 to 50 ft. long; improved loaf sugar chopping block, on stand with drawers, as Gilbert's No. 11; sample trays for counter; glass jars with japanned covers for samples; twelve 112-lb. round japanned store canisters by Gilbert, No. 84; handsome coffee mill on stand, as No. 2 Gilbert's; tea mill, Gilbert's No. 16; tin tea mixer and funnel; two 80-gal. oil cisterns; counter scales, weights; Poupard's improved patent weighing machine, with weights; large show half-circular stands, &c. Lloyd Raynor, 333 Kingsland Road, Kingsland, London, N.

Pound bottle of Twemlow's chlorodyne, 6s. 6d.; Gabriel's preparations at half price, 4 tooth paste, 5 sedadent, 9 gutta-percha enamel, free in London. 32/222.

To Manufacturing Chemists.—One 40-gallon evaporating copper pan with stand, two stills and worm complete; 120 feet steam piping, with brass taps; two seed mills (Parke's make); large beam scales and weights. For particulars apply to F. Taylor, 65 Duke Street, Liverpool.

A case 4 feet 6 long 3 feet high, marble-top, glass front, mahogany, suitable for front of side counter, 4l. 15s.; a plate-glass sponge case, as Maw's 92; a 6-foot counter case, plate-glass, Maw's 105; a 5-foot counter case, plate-glass; a 4-foot dispensing screen, 4 feet 6 long, very good, Maw's 163; a 4-foot ditto ditto; a very good mahogany desk, with case in front, as Maw's No. 36, 60s.; 2 looking glasses, 70 by 37, 90s. each; 2 plate-glass tooth-brush cases, 30s.; Treble's Universal case, 25s.; a 2-foot 6-inch counter case; 3-foot ditto, bent glass; a 4-foot ditto ditto, 12 inches wide; a 4-foot ditto ditto, 24 inches wide, 10 inches deep, 4l. 10s.; 10 dozen shop bottles, 7s. 6d.; 1 specie jar, 24 inches high, Royal Arms, glass-gold cover; 1 pair ditto Prince Wales' Feathers, gilt globe, covers and stands, 60s.; 1 pair ditto ditto, 40s.; 17 8-lb. white ointment jars, 1s. 7d.; 20 carboys, from 2 to 5 gallons; 3 soda-water stands, and several other cases suitable for chemists. Natali, 213 Old Street, City Road, E.C.

2s. 6d. each, carriage paid.—Odling's "Chemistry," Wilson's "Organic Chemistry," Rees' "Diseased Kidneys," Hunt's "Cure of Stammering," Reid's "Hypochondriasis," Gregory's "Chemistry," Markham's "Heart Diseases," Marshall Hall's "Nervous System," George Combe's "Duties of Man Phrenologically Considered," Parkin's "Epidemic Diseases," Phillip's "Translation P. L.," 4th edition, all synonyms, Shaw's "Discoveries of Sir C. Bell on Nervous System," Miller's "Surgery," Walshe's "Diseases of Heart," Liebig's "Letters, Chemistry," Johnson "On Epidemic Diarrhoea," Sully's "Water Cure in Chronic Disease," Cooper's "Surgery," 1839, Coulson "On Bladder and Prostate," Tenneman's "Manual Philosophy" (Bohn), Schlegel's "Philosophy of Life" (Bohn), Schiller's "Historical Works" (Bohn), Nunn's "Milk Abscess," Bushman "On Cholera," Parker's "The Stomach and its Morbid States," Traill's "Medical Jurisprudence." Letters to M. Percy, 24 Whitcomb Street, Leicester Square, London.

Extensive stock of handsome nearly new superior-made chemists' shop fittings and utensils, &c., consisting of mahogany-top counters, sizes from 2 to 26 ft. long, fitted with drawers; mahogany-fronted gold-labelled shop drawers with lockers under, from 1 ft. 4 to 30 ft. long; nests of shelves to stand above drawers, with mahogany cornice on top, from 3 to 26 ft. long; mahogany wall cases, from 1 ft. 10 to 15 ft. long; 30 mahogany bent and flat counter cases, one 2 ft. 6 long, two 2 ft. 3 long, upright mahogany counter cases; two mahogany upright cases with desks, one 2 ft. 6 long, one 4 ft. 6 long; mahogany desk with embossed glass screen; one 6 ft. long dispensing screen, as Treble's 136; two mahogany book cases with cupboards under, &c.; quantity of office desks, writing tables, chairs, stools, &c.; 22 mahogany-grained drug stock boxes with gold labels; 5 mahogany marble-top soda water stands, various designs; 8 shop chairs, as Maw's fig. 245; two bronzed umbrella stands; two mahogany plate-glass sponge cases; two 36 inches high handsome specie jars with royal arms and gilt glass covers and mahogany octagon stands; one 16-gallon pear-shape carboy, with octagon stand; 12 upright show bottles, 22 in. high, with handsome eut-glass stoppers; 50 pear-shape carboys, from 1 to 8 gallons; 3 handsome pillar brass gas brackets; 3 gas chandeliers; 3 handsome drawing or dining-room fenders; superior iron safe by Tann, 2 ft. 9 long, 5 feet high; 650 nearly new shop bottles; 2 doz. 6-lb. blue shop jars; 2 doz. 1-lb. blue shop jars; 2 French pattern counter scales and brass weights; 2 pillar dispensing scales, as fig. 7 Maw's; one 1-gallon, one half-gallon, one 1-quart tincture presses; two 1-doz., one 2-doz. 5-gr. pill machines; one 3-doz. 2-gr. pill machine. Lloyd Rayner, 333 Kingsland Road, Kingsland, London, N.

Squire's "Companion," 6th, 6s.; Ashton "On the Rectum and Anus," 4s. 6d., published 8s.; Garrod's "Materia Medica," 3rd, 6s.; 2nd, 4s.; Magendie's "Physiology," 4s., published 21s.; Paris' "Pharmacologia," 5s., published 20s.; Skey's "Operative Surgery," 2nd, 9s., published 18s.; Erichsen's "Surgery," 3rd, 450 engravings, 10s. 6d.; Bell's "Manual, Surgery," 3s. 6d.; Beasley's books, Spillan's Rayner's "Skin Diseases," coloured plates, 15s.; Wilson's "Anatomist's Vade Mecum," 3s. 6d.; Drutt's Surgeon's ditto, 3s. 6d.; West's "Diseases of Infancy and Childhood," 6s.; Lees' "Midwifery," 5s.; Sinclair and Johnston's "Midwifery," 5s.; Latin Dictionary, &c. Letters to M. Percy, 24 Whitcomb Street, Leicester Square, London.

WANTED.

A lot of quart Apollinaris bottles, short series. Say quantity and price to J. Floyd, Bury St. Edmunds.

Dispensing scales, 4-grain pill machine, slab 12 inches square W. Gare, Bampton, Devon.

Peter Squire's "Companion to the British Pharmacopœia. App. H. Hopkinson, Grantham.

Dental lathe, vulcaniser, dental metals, automatic machine Bell Bros., 11 Old Post Office Place, Liverpool.

A chemist requires shop fittings; no bottles; must be good and moderate in price. 10/225.

Original autograph prescriptions. State number and price Gorton, 12 Clarence Road, Bow, London.

Attfield's "Chemistry," and Bentley's "Botany." Apply, J. Bird, Furthoe, near Stoney Stratford.

Two plate-glass shelves, 6 feet to 6 ft. 2 long by 6 to 7 inch Price and particulars to Hole & Hollingworth, Mansfield Notts.

The Chemist and Druggist for June, 1874, January, February, March, April, and August, 1875. Will give 2s. 6d. for set. 53/61.

Perfumery, either in bulk or bottles, nail and hair brush also pomade bottles, from 2 to 8-oz., immediate. Delivered free in Liverpool. 53/69.

ADDRESSES AND INFORMATION WANTED.

Chemists able to give any information in reply to queries printed are respectfully requested to communicate the same, addressing in the instance to the reference figure given, "Care of the Publisher of THE CHEMIST AND DRUGGIST." Charge for insertions, 1d. per word.

Colonel Wood (wounded in the knee at Delhi). 5/222.

Mr. D. Forbes, tall, slight, long black beard: has wife and family. 15/222.

A CORRESPONDENT of a Scotch journal recommends dressing of seeds, previous to sowing, with paraffin oil, to guard against the attacks of wire-worm, grub, and all kinds of vermin, besides birds. He also recommends watering the onions, &c., with a mixture of 2 ozs. paraffin with 6 gall water. The *Oil Trade Review*, which quotes this suggestion very properly adds that, presuming it to be well founded, crude paraffin would probably be found even more effective and would certainly prove more economical, while, as it contains a proportion of ammonia, it might also tend to improve the richness of the soil.

Monthly Price Current.

The prices quoted in the following list are those actually obtained in Mining Lane for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.

CHEMICALS.		1876.		1875.	
ACIDS—		s. d.	s. d.	s. d.	s. d.
Acetic	per lb.	0 3½	to 0 0	0 4	to 0 0
Citric	per lb.	2 7½	.. 0 0	3 11	.. 3 11½
Hydrochloric	per cwt.	5 0	.. 7 0	4 0	.. 7 0
Nitric	per lb.	0 4½	.. 0 5½	0 5	.. 0 5½
Oxalic	per lb.	0 5	.. 0 0	0 6	.. 0 6½
Sulphuric	per lb.	0 0½	.. 0 1	0 0½	.. 0 1
Tartaric crystal ..	per lb.	1 5	.. 0 0	1 6½	.. 0 0
powdered ..	per lb.	1 5½	.. 0 0	1 6½	.. 0 0
ANTIMONY ore	per ton	280 0	.. 300 0	260 0	.. 300 0
crude ..	per cwt.	40 0	.. 42 0	36 0	.. 0 0
star ..	per cwt.	63 0	.. 65 0	56 0	.. 58 0
ARSENIC, lump ..	per cwt.	27 0	.. 28 0	30 0	.. 0 0
powder ..	per cwt.	12 0	.. 12 3	15 0	.. 0 0
BRIMSTONE, rough ..	per ton	132 6	.. 135 0	155 0	.. 160 0
roll ..	per cwt.	10 0	.. 0 0	10 0	.. 0 0
flour ..	per cwt.	14 0	.. 14 0	11 6	.. 12 6
IODINE, dry	per oz.	0 5½	.. 0 6	0 8½	.. 0 0
IVORY BLACK, dry ..	per cwt.	8 6	.. 0 0	8 6	.. 0 0
MAGNESIA, calcined ..	per lb.	1 8	.. 0 0	1 6	.. 0 0
MERCURY	per bottle	190 0	.. 0 0	240 0	.. 0 0
MINIUM, red	per cwt.	24 6	.. 25 0	24 6	.. 0 0
orange ..	per cwt.	37 0	.. 0 0	36 0	.. 0 0
PRECIPITATE, red ..	per lb.	4 6	.. 0 0	6 8	.. 0 0
white ..	per lb.	4 5	.. 0 0	6 7	.. 8 0
PRUSSIAN BLUE ..	per lb.	0 0	.. 0 0	0 0	.. 0 0
SALTS—		1876.		1875.	
Alum	per ton	150 0	.. 155 0	150 0	.. 155 0
powder ..	per ton	160 0	.. 167 6	170 0	.. 0 0
Ammonia :					
Carbonate	per lb.	0 5	.. 0 5½	0 7	.. 0 7½
Hydrochlorate, crude,					
white	per ton	560 0	.. 700 0	680 0	.. 0 0
British (see Sal Am.)					
Sulphate	per ton	370 0	.. 375 0	360 0	.. 365 0
Argol, Cape	per cwt.	80 0	.. 87 0	87 6	.. 93 0
Red ..	per cwt.	70 0	.. 75 0	74 0	.. 85 0
Oporto, red ..	per cwt.	33 6	.. 34 0	34 0	.. 35 0
Sicily ..	per cwt.	0 0	.. 0 0	60 0	.. 62 0
Ashes (see Potash and Soda)					
Bleaching powd.	per cwt.	7 6	.. 0 0	10 0	.. 0 0
Borax, crude ..	per cwt.	32 0	.. 49 0	40 0	.. 55 0
British refined ..	per cwt.	53 0	.. 0 0	56 0	.. 0 0
Calomel	per lb.	4 0	.. 0 0	5 1	.. 0 0
Copper :					
Sulphate	per cwt.	23 6	.. 24 0	26 0	.. 28 0
Copperas, green ..	per ton	62 6	.. 67 6	65 0	.. 70 0
Corrosive Sublimat. p. lb.		3 5	.. 0 0	4 3	.. 0 0
Cr. Tartar, French, p. cwt.		106 0	.. 106 6	113 0	.. 0 0
brown ..	per cwt.	82 6	.. 90 0	92 6	.. 93 0
Epsom Salts	per cwt.	5 3	.. 7 0	5 6	.. 6 6
Glauber Salts	per cwt.	4 6	.. 5 6	6 6	.. 7 0
Lime :					
Acetate, white, per cwt.		11 0	.. 20 0	13 0	.. 21 0
Magnesia : Carbonate ..		45 6	.. 0 0	42 6	.. 45 0
Potash :					
Bichromate	per lb.	0 4½	.. 0 0	0 6½	.. 0 0
Carbonate :					
Potashes, Canada, 1st					
sort	per cwt.	26 6	.. 27 0	34 0	.. 34 6
Pearlshes, Canada, 1st					
sort	per cwt.	29 6	.. 30 0	42 0	.. 0 0
Chlorate	per lb.	0 8½	.. 0 0	0 9½	.. 0 9½
Prussiate	per lb.	0 11½	.. 0 0	1 1	.. 0 0
red ..	per lb.	3 2	.. 3 3	3 2	.. 3 3
Tartrate (see Argol and Cream of Tartar)					
Potassium :					
Chloride	per cwt.	7 0	.. 0 0	7 0	.. 0 0
Iodide	per lb.	7 8	.. 0 0	11 0	.. 0 0
Quinine :					
Sulphate, British, in					
bottles	per oz.	7 2	.. 7 3	7 0	.. 0 0
Sulphate, French ..	per lb.	6 4	.. 0 0	6 8	.. 0 0
Sal Aetios	per lb.	0 7½	.. 0 0	0 9½	.. 0 10
Sal Ammoniac, Brit. cwt.		44 0	.. 45 0	44 0	.. 45 0
Saltpetre :					
Bengal, 6 per cent. or					
under	per cwt.	18 3	.. 18 9	20 6	.. 21 3
Bengal, over 6 per cent.					
per cwt.		17 6	.. 18 0	19 0	.. 20 3
British, refined ..	per cwt.	21 6	.. 22 9	23 9	.. 24 9
Soda : Bicarbonate, p. cwt.		11 0	.. 0 0	14 0	.. 14 6
Carbonate :					
Soda Ash ..	per deg.	0 1½	.. 0 2	0 2½	.. 0 0
Soda Crystals per ton		80 0	.. 82 6	100 0	.. 0 0
Hyposulphite, per cwt.		0 0	.. 0 0	0 0	.. 0 0
Nitrate	per cwt.	11 3	.. 11 6	12 6	.. 12 9
SUGAR OF LEAD, White cwt.		40 0	.. 0 0	42 0	.. 44 0
SUGAR OF LEAD, Brown, cwt.		27 0	.. 0 0	32 0	.. 33 0
SULPHUR (see Brimstone)					

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VERDIGRIS		per lb.	s. d.	per lb.	s. d.
VERMILION, English ..		3 2	.. 0 0	4 0	.. 0 0
China ..		0 0	.. 0 0	0 0	.. 0 0
DRUGS.					
ALOES, Hopatic	per cwt.	60 0	.. 160 0	60 0	.. 180 0
Socotrine ..	per cwt.	65 0	.. 205 0	90 0	.. 200 0
Cape, good ..	per cwt.	30 0	.. 44 0	31 0	.. 35 0
Inferior ..	per cwt.	23 0	.. 35 0	26 0	.. 33 0
Barbadoes ..	per cwt.	45 0	.. 180 0	40 0	.. 180 0
AMBERGRIS, grey	per oz.	54 0	.. 65 0	25 0	.. 80 0
BALSAM—					
Canada	per lb.	1 3	.. 0 0	1 9	.. 0 0
Capivi ..	per lb.	2 0	.. 2 3	2 9	.. 2 10
Peru ..	per lb.	4 6	.. 5 0	6 3	.. 6 4
Tolu ..	per lb.	6 0	.. 6 6	5 9	.. 6 0
BARKS—					
Canella alba	per cwt.	0 0	.. 0 0	16 0	.. 27 0
Cascarilla ..	per cwt.	19 0	.. 25 0	19 0	.. 22 0
Peru, crown & grey ..	per lb.	1 2	.. 2 9	0 9	.. 2 5
Calisaya, flat ..	per lb.	2 0	.. 4 5	2 11	.. 4 7
quill ..	per lb.	2 0	.. 4 5	2 11	.. 4 0
Carthagena ..	per lb.	1 5	.. 2 2	0 6	.. 1 8
Columbian ..	per lb.	1 2	.. 3 4	6 0	.. 2 9
E. I. ..	per lb.	2 0	.. 6 0	1 3	.. 3 6
Pitayo ..	per lb.	0 7	.. 1 9	0 4	.. 2 0
Red ..	per lb.	1 9	.. 4 6	1 0	.. 4 0
Buchu Leaves ..	per lb.	0 1	.. 1 1	0 2	.. 1 1
CAMPOR, China ..	per cwt.	62 6	.. 0 0	69 0	.. 70 0
Japan ..	per cwt.	65 0	.. 0 0	0 0	.. 0 0
Refin. Eng. per lb.		1 0	.. 0 0	1 1	.. 0 0
CANTHARIDES ..	per lb.	3 3	.. 3 9	2 9	.. 3 6
CHAMOMILE FLOWERS ..	per cwt.	29 0	.. 50 0	35 0	.. 37 0
CASTOREUM ..	per lb.	6 0	.. 26 0	6 0	.. 24 0
DRAGON'S BLOOD, Ip. p. cwt.		110 0	.. 200 0	80 0	.. 220 0
FRUITS AND SEEDS (see also Seeds and Spices).					
Anise, China Star per cwt.		85 0	.. 102 6	110 0	.. 112 6
Spanish, &c. ..	per cwt.	26 0	.. 40 0	30 0	.. 35 6
Beans, Tonquin ..	per lb.	1 7	.. 2 6	2 0	.. 3 0
Cardamoms, Malabar					
good ..	per lb.	3 6	.. 4 4	3 6	.. 5 0
inferior ..	per lb.	0 10	.. 3 0	2 0	.. 3 5
Madras ..	per lb.	1 9	.. 3 2	2 9	.. 4 0
Ceylon ..	per lb.	5 0	.. 5 2	5 8	.. 5 10
Cassia Fistula ..	per cwt.	8 0	.. 14 6	12 6	.. 15 0
Castor Seeds ..	per cwt.	5 0	.. 10 6	10 0	.. 10 6
Cocculus Indicus ..	per cwt.	13 0	.. 15 0	14 0	.. 16 0
Colocynth, apple ..	per lb.	0 6	.. 0 11	0 11	.. 1 0
Croton Seeds ..	per cwt.	33 0	.. 0 0	41 0	.. 0 0
Cubels ..	per cwt.	30 0	.. 0 0	26 6	.. 28 0
Cummin ..	per cwt.	18 0	.. 24 0	15 0	.. 20 0
Dividivi ..	per cwt.	10 0	.. 15 0	11 0	.. 17 0
Penugreek ..	per cwt.	15 0	.. 22 0	8 0	.. 16 0
Guinea Grains ..	per cwt.	23 0	.. 0 0	22 0	.. 0 0
Juniper Berries ..	per cwt.	7 0	.. 10 0	9 0	.. 10 6
Nux Vomica ..	per cwt.	13 6	.. 15 6	12 0	.. 17 0
Tamarinds, East India ..	per cwt.	14 6	.. 15 0	18 0	.. 40 0
West India ..	per cwt.	12 0	.. 24 0	16 0	.. 22 0
Vanilla, large ..	per lb.	30 0	.. 44 0	60 0	.. 72 0
inferior ..	per lb.	13 0	.. 28 0	50 0	.. 59 0
GINGER, Preserved, per lb.		0 5½	.. 0 10	0 6½	.. 0 7
HONEY, Chili ..	per cwt.	45 0	.. 46 0	40 0	.. 54 0
Jamaica ..	per cwt.	40 0	.. 52 0	36 0	.. 47 0
Australian ..	per cwt.	0 0	.. 0 0	0 0	.. 0 0
IPECACUANHA ..	per lb.	3 0	.. 4 6	4 3	.. 4 8
ISINGLASS, Brazil ..	per lb.	2 0	.. 5 1	3 0	.. 5 0
Tongue sort ..	per lb.	2 3	.. 5 2	3 0	.. 5 10
East India ..	per lb.	0 9	.. 4 7	1 0	.. 5 1
West India ..	per lb.	3 9	.. 4 3	4 8	.. 5 2
Russ. long staple ..	per lb.	9 0	.. 12 6	13 0	.. 16 0
inferior ..	per lb.	0 0	.. 0 0	0 0	.. 0 0
Simovia ..	per lb.	3 0	.. 3 6	3 0	.. 4 0
JALAP, good ..	per lb.	0 7	.. 0 9	0 8½	.. 0 10
infer. & stems ..	per lb.	0 6	.. 0 6½	0 5	.. 0 8
LEMON JUICE ..	per degree	0 1	.. 0 1½	0 2	.. 0 2½
LIME JUICE ..	per gall.	1 3	.. 1 8	1 9	.. 2 0
LIQURICE, Spanish ..	per cwt.	0 0	.. 0 0	40 0	.. 70 0
Liquorice Root ..	per cwt.	13 0	.. 35 0	11 0	.. 16 0
MANNA, flaky ..	per lb.	5 6	.. 6 0	4 6	.. 5 6
small ..	per lb.	1 6	.. 1 9	1 6	.. 1 9
MUSK, Pod ..	per oz.	13 0	.. 45 0	17 0	.. 47 6
Grain ..	per oz.	37 0	.. 58 0	40 0	.. 55 0
OILS (see also separate list)					
Almond, expressed ..	per lb.	1 3	.. 0 0	1 3	.. 0 0
Castor, 1st pale ..	per lb.	0 3½	.. 0 0	0 5	.. 0 0
second ..	per lb.	0 3½	.. 0 3½	0 3½	.. 0 4½
infer. & dark ..	per lb.	0 3	.. 0 0	0 3½	.. 0 4
Cod Liver ..	per gall.	4 0	.. 7 0	5 6	.. 7 9
Croton ..	per oz.	0 2½	.. 0 0	0 2½	.. 0 0
Essential Oils:					
Almond ..	per lb.	20 0	.. 0 0	30 0	.. 0 9
Anise-seed ..	per lb.	6 9	.. 0 0	9 3	.. 9 6
Bay ..	per cwt.	0 0	.. 0 0	65 0	.. 70 0
Bergamot ..	per lb.	10 0	.. 15 0	10 0	.. 25 0
Cajeput ..	per bottle	2 9	.. 3 0	2 4	.. 2 8
Caraway ..	per lb.	9 0	.. 9 3	9 0	.. 0 0
Cassia ..	per lb.	3 11	.. 4 1	4 4	.. 4 6
Cinnamon ..	per oz.	2 6	.. 6 6	1 0	.. 6 6
Cinnamon-leaf ..	per oz.	0 0	.. 0 0	0 2	.. 0 3
Citronelle ..	per lb.	0 1½	.. 0 0	0 1½	.. 0 2
Clove ..	per lb.	8 9	.. 0 0	10 3	.. 10 9
Juniper ..	per lb.	1 10	.. 0 0	1 3	.. 2 0
Lavender ..	per lb.	1 8	.. 7 0	2 0	.. 5 6
Lemon ..	per lb.	7 0	.. 9 6	7 0	.. 11 0

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Essential Oils, continued:—							
s.	d.	s.	d.	s.	d.	s.	d.
Lemongrass	0 2½	0 2½	0 2½	0 2½	0 0	0 0	0 0
Neroli	3 0	6 6	6 6	0 4	3 0	3 0	3 0
Nutmeg	0 7	0 7½	0 7½	0 7	0 0	0 0	0 0
Orange	4 6	5 0	5 0	6 0	9 0	9 0	9 0
Otto of Roses	13 0	25 0	25 0	13 0	25 0	25 0	25 0
Patchouli	2 0	3 9	3 9	2 9	4 0	4 0	4 0
Peppermint:							
American	14 6	16 6	16 6	22 6	23 6	23 6	23 6
English	32 0	34 0	34 0	35 0	36 0	36 0	36 0
Rosemary	2 0	2 6	2 6	1 4	1 10	1 10	1 10
Sassafras	2 3	0 0	0 0	2 3	2 6	2 6	2 6
Spearmin	14 0	16 0	16 0	12 0	19 0	19 0	19 0
Thyme	1 9	3 6	3 6	1 9	2 0	2 0	2 0
Mace, expressed	0 6	0 10	0 10	0 7	0 10	0 10	0 10
OPIMUM, Turkey	19 6	22 0	22 0	38 6	42 0	42 0	42 0
inferior	13 0	18 0	18 0	22 0	35 0	35 0	35 0
QUASSIA (bitter wood) per ton	100 0	140 0	140 0	160 0	31 0	31 0	31 0
RHUBARB, China, good and fine	4 10	5 7	5 7	2 0	4 6	4 6	4 6
Good, mid. to ord.	1 2	3 6	3 6	0 8	1 10	1 10	1 10
ROOTS—Calumba	25 0	28 0	28 0	20 0	30 0	30 0	30 0
China	19 0	24 0	24 0	18 0	20 0	20 0	20 0
Chiretta	0 3½	0 4	0 4	0 3	0 6	0 6	0 6
Galaugul	19 0	22 0	22 0	20 0	26 0	26 0	26 0
Gentian	23 0	24 0	24 0	23 0	24 0	24 0	24 0
Hellebore	0 0	0 0	0 0	30 0	33 0	33 0	33 0
Orris	26 0	75 0	75 0	26 0	75 0	75 0	75 0
Pellitory	0 0	0 0	0 0	38 0	39 0	39 0	39 0
Pink	0 0	0 0	0 0	0 10	1 3	1 3	1 3
Rhatany	0 4	1 0	1 0	0 4	2 0	2 0	2 0
Seneka	3 6	0 0	0 0	3 2	3 7	3 7	3 7
Snake	0 6	0 6½	0 6½	0 10	1 0	1 0	1 0
SAFFRON, Spanish	31 0	36 0	36 0	18 0	23 0	23 0	23 0
SALEP, Alicant	22 0	24 0	24 0	0 0	0 0	0 0	0 0
SARSAPARILLA, Lima per lb.	0 6	0 8	0 8	0 6	0 8	0 8	0 8
Para	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Honduras	1 3	1 7	1 7	1 4	2 0	2 0	2 0
Jamaica	2 1	2 11	2 11	2 3	2 9	2 9	2 9
SASSAFRAS	0 0	0 0	0 0	0 0	0 0	0 0	0 0
SCAMMONY, Virgin	24 0	30 0	30 0	25 0	36 0	36 0	36 0
second & ordinary	6 0	22 0	22 0	7 0	24 0	24 0	24 0
SENA, Bombay	0 1	0 4	0 4	0 1	0 4	0 4	0 4
Tinnivelly	0 2	1 0	1 0	0 1	0 8	0 8	0 8
Alexandria	0 4½	2 8	2 8	0 6	2 6	2 6	2 6
SPERMACEET, refined	1 4	0 0	0 0	1 3	0 0	0 0	0 0
American	1 1	1 2	1 2	1 1	1 2	1 2	1 2
SQUILLS	0 3	0 4	0 4	0 1½	0 3	0 3	0 3
GUMS.							
£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.
AMMONIAC drop	1 13	3 10	3 10	3 4	4 0	4 0	4 0
lump	1 5	1 10	1 10	3 0	3 15	3 15	3 15
ANIM, fine washed	11 0	12 10	12 10	1 10	13 10	13 10	13 10
boldseraped	9 10	10 11	10 11	10 10	11 5	11 5	11 5
sorts	6 0	9 5	9 5	6 10	10 5	10 5	10 5
dark	3 5	6 10	6 10	4 10	5 10	5 10	5 10
ARABIC, E.I., fine							
pale picked	3 5	3 15	3 15	2 16	3 6	3 6	3 6
srts., md. to fin.	1 8	3 0	3 0	1 13	2 15	2 15	2 15
garblings	0 14	2 3	2 3	0 19	1 15	1 15	1 15
TURKEY, pick. gd. to fin.	6 0	9 0	9 0	7 0	11 0	11 0	11 0
second & inf.	2 10	5 10	5 10	3 0	6 18	6 18	6 18
in sorts	1 10	2 5	2 5	1 10	2 15	2 15	2 15
Gedda	1 2	1 5	1 5	1 1	1 4	1 4	1 4
BARBARY, white	0 0	0 0	0 0	1 10	1 15	1 15	1 15
brown	1 0	1 13	1 13	1 5	1 11	1 11	1 11
AUSTRALIAN	1 17	2 6	2 6	1 15	2 5	2 5	2 5
AS-SAFGETIDA, cm. to fin	0 18	1 16	1 16	0 12	1 18	1 18	1 18
BENJAMIN, 1st & 2nd	8 0	29 0	29 0	20 0	30 0	30 0	30 0
Sumatra 1st & 2nd	6 10	15 0	15 0	7 10	12 10	12 10	12 10
3rd	3 10	5 10	5 10	3 10	4 10	4 10	4 10
COPAL, Angola red	6 0	6 15	6 15	5 10	6 10	6 10	6 10
Benguela	4 0	5 0	5 0	4 0	5 0	5 0	5 0
Sierra Leone, per lb.							
s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Manilla	0 7½	0 11	0 11	0 4	1 2	1 2	1 2
DAMMAR, pale	15 0	27 0	27 0	25 0	36 0	36 0	36 0
Singapore	54 0	60 0	60 0	58 0	62 0	62 0	62 0
EUPHORBIA	12 0	20 0	20 0	12 0	20 0	20 0	20 0
GALBANUM	0 6	1 6	1 6	1 0	1 6	1 6	1 6
GAMBOGE, pkd. pipe per cwt.	200 0	240 0	240 0	180 0	280 0	280 0	280 0
GUAIACUM	0 9	1 9	1 9	0 8	2 6	2 6	2 6
KINO	56 0	70 0	70 0	60 0	90 0	90 0	90 0
KOWRIE, rough	30 0	45 0	45 0	30 0	60 0	60 0	60 0
scraped sorts	50 0	60 0	60 0	61 0	77 0	77 0	77 0
MASTIC, picked	4 0	5 0	5 0	4 6	6 0	6 0	6 0
MYRRH, gd. & fine per cwt.	160 0	170 0	170 0	119 0	125 0	125 0	125 0
ord. to fair	100 0	150 0	150 0	80 0	115 0	115 0	115 0
OLIBANUM, p. drop	51 0	54 0	54 0	50 0	60 0	60 0	60 0
amber & ylw.	45 0	50 0	50 0	43 0	50 0	50 0	50 0
garblings	16 0	30 0	30 0	22 0	33 0	33 0	33 0
SENEGAL	2 10	3 0	3 0	2 0	2 5	2 5	2 5
SANDARAC	85 0	105 6	105 6	90 0	100 0	100 0	100 0
SHELLAC, Orange	95 6	145 0	145 0	135 0	295 0	295 0	295 0
Liver	90 0	120 0	120 0	220 0	255 0	255 0	255 0
THUS	20 0	21 6	21 6	22 0	20 0	20 0	20 0
TRAGACANTH, leaf	240 0	400 0	400 0	220 0	390 0	390 0	390 0
in sorts	25 0	175 0	175 0	30 0	190 0	190 0	190 0
OILS.							
£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.
SEAL, pale	34 0	35 0	35 0	36 0	0 0	0 0	0 0
yellow to tinged	30 0	33 10	33 10	33 0	35 10	35 10	35 10
brown	29 0	29 10	29 10	30 0	32 0	32 0	32 0
SPERM	91 0	0 0	0 0	110 0	0 0	0 0	0 0
BODY	0 0	0 0	0 0	0 0	0 0	0 0	0 0
COD	43 0	0 0	0 0	42 10	43 0	43 0	43 0

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Oils, continued:—							
£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.
WHALE, South Sea, pale, per tun	34 10	35 0	35 0	35 0	36 0	36 0	36 0
yellow	32 0	34 0	34 0	32 0	34 10	34 10	34 10
brown	28 0	30 0	30 0	29 0	30 0	30 0	30 0
East India, Fish	24 10	0 0	0 0	25 0	25 10	25 10	25 10
OLIVE, Gallpoll	45 0	0 0	0 0	0 0	0 0	0 0	0 0
Gloja	0 0	0 0	0 0	42 10	0 0	0 0	0 0
Levant	0 0	0 0	0 0	41 0	41 5	41 5	41 5
Mogador	0 0	0 0	0 0	39 15	40 0	40 0	40 0
Spanish	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Sicily	0 0	0 0	0 0	0 0	0 0	0 0	0 0
COCOANUT, Cochln.	39 10	40 0	40 0	43 10	44 0	44 0	44 0
Ceylon	37 0	0 0	0 0	37 10	37 15	37 15	37 15
Sydney	29 0	36 10	36 10	37 10	0 0	0 0	0 0
GROUND NUT AND GINGELLY:							
Bombay	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Madras	0 0	0 0	0 0	34 10	0 0	0 0	0 0
PALM, fine	37 0	0 0	0 0	34 10	0 0	0 0	0 0
LINSEED	24 0	0 0	0 0	25 7/6	25 10	25 10	25 10
RAPESEED, English, pale	36 10	0 0	0 0	0 0	0 0	0 0	0 0
brown	34 10	0 0	0 0	30 0	0 0	0 0	0 0
Foreign, pale	38 0	0 0	0 0	33 0	0 0	0 0	0 0
brown	0 0	0 0	0 0	0 0	0 0	0 0	0 0
COTTONSEED	29 10	39 0	39 0	26 10	27 0	27 0	27 0
LARD	58 0	0 0	0 0	71 0	0 0	0 0	0 0
TALLOW	30 0	54 0	54 0	28 0	28 0	28 0	28 0
TURPENTINE, American, eks.	22 0	0 0	0 0	24 9	0 0	0 0	0 0
French	0 0	0 0	0 0	0 0	0 0	0 0	0 0
PETROLEUM, Crude	0 0	0 0	0 0	0 0	0 0	0 0	0 0
refined, per gall.	0 10½	0 10½	0 10½	0 9	0 9½	0 9½	0 9½
Spirit	0 7½	0 7½	0 7½	0 8½	0 9	0 9	0 9
SEEDS.							
CANARY	110 0	0 0	0 0	125 0	300 0	300 0	300 0
CARAWAY, English per cwt.	0 0	0 0	0 0	0 0	0 0	0 0	0 0
German, &c.	0 0	0 0	0 0	0 0	0 0	0 0	0 0
CORIANDE	15 0	23 0	23 0	8 0	18 0	18 0	18 0
HEMP	40 0	45 0	45 0	36 0	38 0	38 0	38 0
LINSEED, English per qr.	53 0	66 0	66 0	59 0	66 0	66 0	66 0
Black Sea & Azof	48 0	0 0	0 0	55 0	56 0	56 0	56 0
Caleutta	47 6	0 0	0 0	58 0	0 0	0 0	0 0
Bombay	48 6	0 0	0 0	58 0	61 0	61 0	61 0
St. Petrsbrg.	0 0	48 0	48 0	0 0	0 0	0 0	0 0
Mustard, brown	12 0	15 0	15 0	0 0	0 0	0 0	0 0
white	13 0	16 0	16 0	7 0	12 0	12 0	12 0
POPPY, East India, per qr.	47 0	0 0	0 0	47 0	0 0	0 0	0 0</



THE favourable turn which recent political events have given to the financial markets may, if it prove permanent, communicate itself shortly to other departments of enterprise, and there is reason to believe that the recovery, when it once begins in good earnest, will be rapid and considerable. There is an enormous amount of dead capital, both in this country and France, awaiting employment. As soon as the nations of Europe feel the incubus of an impending war lifted from them, there will be abundant openings for enterprise, and every movement made will awaken others, so that activity would spread through the whole mass like a ferment. But this will not occur unless the intentions of the great nations are really peaceful. Admirers of the present Government have very largely discounted its claim to glory, even supposing the recent crisis has been as serious as the wildest alarmists imagined. If it should prove that its conduct has been only the result of an undignified sear, there will be no escape from the conclusion that England, above all other countries, is responsible for the gloom and depression that has lately pervaded all sections of the commercial community.

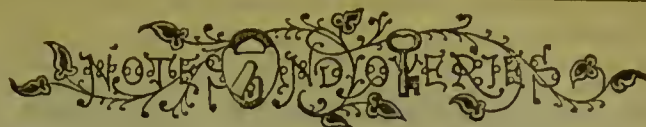
No improvement is manifest in our export returns for May. They again show a reduction of more than a million sterling as compared with the corresponding month of 1876.

Chemicals generally continue to rule flat. Soda is unchanged, but sales are only moderate. Bleaching powder is offered at 7*l.* to 7*l.* 10*s.*, free in London. Tartaric acid is dull at 1*s.* 5*d.* Citric, which has been offered at 2*s.* 7*d.*, has rallied somewhat sharply, and 2*s.* 7½*d.* to 2*s.* 8*d.* is now required. Quicksilver has fallen within the past few days, and has sold at 9*l.* 10*s.* per bottle, and even for less. Iodine shows a rather stronger tendency.

The drug markets have been slightly more active. Unusually large quantities have been brought forward, which have, of course, far overweighted the demand, which at the best has been but moderate. Nevertheless, a fair degree of business has occurred. The bark trade especially has been lively. Quinine makers have taken with avidity the good specimens that have offered, East India varieties commanding the most favour. Norwegian cod liver oil is now held for 7*s.* 9*d.* for the finest pale, some having sold at last sales at 7*s.* 6*d.* in tins. Newfoundland bought in from 5*s.* to 7*s.* 6*d.*, one lot of 2 casks yellow sold for 4*s.* 9*d.* Castor oil is still abundant, and a shade cheaper. Rhubarb is still advancing, the finest bought in at 6*s.* 6*d.*; good round with a little dark sold at 4*s.* 6*d.* to 5*s.* 2*d.*; good flat, 4*s.* 7*d.* to 4*s.* 11*d.*; 2nd and 3rd quality, 1*s.* 2*d.* to 3*s.* 23 caddies of Tonquin musk sold, good quality, 37*s.* to 38*s.*; 2nds, 14*s.* 6*d.* 1 tin of fine Yunnan in very thin skin sold for 48*s.*; 9 tins ditto in usual pods, 39*s.* to 39*s.* 6*d.*; cabardine bought in, pod, 15*s.* 6*d.*; and grain, 52*s.* 6*d.* Ambergris sold: good, 60*s.*; fair, 55*s.*; and fine, bought in, 65*s.* Vanillaes are firm, best selling at 43*s.*; and good, 27*s.* to 39*s.*; foxy, 14*s.* to 21*s.* Ipecacuanha, 17 serons sold, principally country damaged and mouldy, at 3*s.* 8*d.* to 4*s.* 5*d.*; and damaged only, 3*s.* 6*d.* to 4*s.* 4*d.* All rather lean and woody. Sarsaparilla, Honduras, 1*s.* 3*d.* to 1*s.* 5½*d.*; country damaged, 1*s.* 2*d.* to 1*s.* 2¾*d.*; Jamaica, good dark, 3*s.*; wormy, 2*s.* 9*d.*; and one lot coarse pale, 1*s.* 8*d.* Finively senna, 11 bales good quality sold at 8½*d.*; middling and yellow, 1½*d.* to 3¾*d.*; falsely packed and damaged, ½*d.* to 1¾*d.* The high price of ergot has tempted a few parcels, and the market is a little easier. Balsam copaiba has arrived very freely, and is lower.

A little difficulty arose at the drug sales on June 1, the room being kept waiting in consequence of the first selling broker not making his appearance at the specified time. It was suggested that in future it should be the rule that the offender should be put to the bottom of the form (*i.e.*, sell the last), and it was also proposed that he should be fined 5*l.*, a suggestion which the brokers did not seem to relish. The matter was ultimately referred to the committee to be settled.

Oils have been somewhat lively, linseed and rapeseed especially showing animation. The former closes at 21*l.*, the latter at 41*l.* 10*s.* Olive still remains dull, and there seems little doubt of a good crop in Italy. Turpentine has dropped somewhat and has sold at 21*s.* 6*d.* during the month, but closes at 22*s.* Petroleum realises ½*d.* more than last month.



That Furniture Cream.—Dens writes :—"In your issue of the 15th ult. you call the formula for J. L.'s furniture cream an impossible one. Allow me to show that it is not so, viz. :—

Dissolve Castile Soap, 3*j.*

In Boiling Water, Oij.

by the aid of a water-bath, and add sufficient hot water to it to make up for loss by evaporation. Also melt

Bees' Wax, 1*lbj.*

White Wax, 3*j.*

In Turpentine, Oij.

by the aid of a water bath. Mix the two solutions in a very warm jug, and stir briskly for five or ten minutes, then pour in wide-mouthed bottles for sale."

S. A. asks "if there is any way of removing Indian ink from the skin, of some years' standing." Unless the skin had been tattooed we should hardly have thought a mere stain would have been so permanent. If it be so, we should think sulphur fumes and afterwards the use of pumice stone would be the most effectual means of removing it.

W. H. P.—A permanent red for show-bottles is not easily obtained. The colour is generally obtained from cochineal (1 oz. in 2 gallons of boiling water, to which 1 oz. of sulphuric acid is afterwards added). This will bear considerable dilution. Dried rose leaves also yield a good colour, 1 lb. being digested in 2 gallons of water and 6 ozs. sulphuric acid added. Iodine and iodide of potassium, of each 2 drms. in 3 gallons of water, with 4 ozs. muriatic acid, give a fine crimson; and a splendid permanent pink may be obtained from a solution of nitrate of cobalt to which sufficient sesquicarbonate of ammonia is added to re-dissolve the precipitate. By adding to this a sufficiency of solution of ammonio-sulphate of copper, a beautiful and quite permanent violet will be produced.

One who has been Behind the Scenes.—That you cannot "find any other branch of a chemists' business so remunerative" as the prescribing department is not of itself a sufficient reason why the law should support you. When prescribing chemists are of no use to the community they must share the fate of all excrescences, and be cut off. But that time is, we believe, far distant. We do not print your long letter because you tell us nothing very new, and you vary your truisms with such inaccurate arguments as that "chemists have to undergo examinations as strict as theirs (the physicians), and have to pay as much for their education as they."

Medicus.—You seem to have misapprehended the meaning of the letter entitled "Vested Interest in Medicine." The writer refers to the historic metamorphosis of the apothecaries as a class into medical practitioners. So the information you are good enough to give us respecting the apothecaries' curriculum is somewhat beside the mark. In further criticism of Mr. J. B. Smith's remarks, Medicus adds, "It is an absurdity to imagine that any society connected with medicine is going to grant certificates of competency in any one particular subject. If the Pharmaceutical Society had an examination in medicine for the 'Major,' instead of what it is, I think it would be much more useful, and the old tale of pharmaceutical chemists gradually getting less would not be heard."

To Mix Powders on a Large Scale.—"In your 'Notes and Queries' of this month *Capsicum* asks for the best plan of mixing large quantities of powders thoroughly together. Your answer gives a common old plan, good as far it goes, but very imperfect in principle and unsatisfactory in practice. If the mixing be done in an open sieve large enough to sift the 1 cwt. of aloes, capsicum, &c., would you, Mr. Editor, like to be present in the room where it was being done? This and other obvious objections are plain enough. I may also premise that every mixing apparatus which is not of a sifting character is imperfect in its operation. I speak from nearly 40 years' experience on a large scale, and have used various means of my own construction for the purpose. I shall be happy to describe those I now use, if acceptable, to *Capsicum* or others of your readers.

"One of my sieves consists of a long oak box and lid: the lower part of the box is of the same dimensions as the lid or upper part. Into the lower part I put 50 lbs. or more of various powders; I then place a sieve within the upper part of this lower box, and fix the lid over that by means of hinged fasteners, which keep it close and tight; then I turn the whole box upside down and shake it backward and forward against two spring buffers until the ingredients have all passed through, which is known to be accomplished by the distinct rattling of a few small wooden balls inside, which remain more or less quiet so long as any powder is not sifted through. The box is then turned over and the contents sifted back again, and then, if necessary, turned over again, and the process repeated as frequently as may be required, thus mixing the ingredients most perfectly, without dust or waste.

"The shaking movement is facilitated by means of rollers on the bottom and the top of the box, which has also a handle at each end, so that two persons can work it without using the buffers, if desired.

"I shall be glad to describe my other plan if this be thought worth notice. In the meantime I should like others who sift large quantities of drugs or

chemical powders to give me their experience, with a view of helping each other to the best means for such an end, but with no motive to practise the selfish system of patenting such a boon. But if there is any already patented machinery for sifting without dust or waste superior to the barbarous old drum sieve, or to one I have described above, I should like to hear of it.—**RECIPROCAL.**"

Dens.—The *British Journal of Dental Science*, published by Churchill, London, monthly, 1s.

Marlow.—Two drops of essence of lemon to each ounce of your seidlitz mixture would give a lemon flavour to the draught.

H. H.—The Pharmacy Act expressly exempts the "making or dealing in patent medicines" from its provisions; therefore anyone not on the register may introduce such, even though they contain dangerous poisons.

Sardanapalus.—(1) Your question, "What constitutes the Minor?" is not sufficiently definite. If you mean the Minor Examination, get the "Pharmaceutical Calendar" from 17 Bloomsbury Square, price 1s., which will tell you all about it. (2) Concerning your taps, we really are not clairvoyant enough to tell you why they turn hard. Perhaps they want taking to pieces and greasing. Apply to a plumber. (3) We are not aware that castor oil does improve in the sun. It gets whiter, certainly, but bleached castor oil is unquestionably more disagreeable in flavour than unbleached. (4) Liquid cochineal for confectioners' use is not similar to the tinct. cocci of the British Pharmacopœia. A good formula is 1 ounce each of burnt alum, cream tartar, carbonate potash, and powdered cochineal, which are to be macerated in 16 ounces water for 12 hours, then filtered and poured on to 20 ounces white sugar, and made into a syrup with gentle heat.

J. A. (Belfast).—(1) *Isomerism*, *metamerism*, and *polymerism* are terms very frequently used in the study of chemical science, and it is of the highest importance that the notions conveyed by them should be clear and definite. The notion of isomerism in its widest sense is inclusive of the other two in so far as they refer to identity of centesimal composition, and hence these may be considered as varieties of isomerism. In its more restricted sense the word expresses the relation which subsists between bodies such as cellulose and starch ($C_6H_{10}O_5$), it not having been ascertained yet whether there is any difference as to actual number or as to arrangement of atoms in the molecule of each. Polymerism expresses the relation which obtains between isomeric bodies, in which the number of atoms in a molecule of one is a multiple or submultiple of the number in a molecule of another. The series of which

Methylene, CH_2
Ethylene, C_2H_4
Propylene, C_3H_6

are members illustrates this. You will perceive that the definition of metamerism in the paper you refer to is illustrated by the second and third bodies cited, but we venture to think that the author you refer to (Attfield) is peculiar in his use of the term. The notion he attaches to it may very well be included in that of polymerism; moreover, he leaves a most important modification of isomerism without a corresponding term, viz., identity of number of atoms in the molecules, but different chemical properties depending on different arrangement of these atoms. This modification, styled by common consent metamerism, cannot be better studied than by the aid of urea and ammonium cyanate. Ethyl and propyl are not isomers at all; the proportions of the element are not the same.

(2) You are mistaken in supposing that water is not decomposed by the electric current. The first decomposition effected by the battery was that of water in 1800. Acid merely increases the conductivity of the water, and we should suppose that in the case mentioned the products of decomposition of the water are the inciting cause of decomposition in the propionic acid.

Crucible.—Strictly speaking, jalapin is that portion of resin of jalap which is soluble in ether; commercially, it is the name given to resin of jalap from which the colour has been removed by solution in alcohol and digestion with animal charcoal, the resin being recovered from the spirituous solution by distillation.

Eldnek.—In medicine a caustic body is one which has a burning or corroding action on animal tissues. Borax, so far from possessing these properties, has a positive sedative or soothing influence when applied to mucous membranes, and cannot, therefore, be termed with propriety a caustic or corrosive alkali. As liq. ammoniæ has the properties indicated, the name applies to it with perfect correctness, though it is not usually classed with bodies used as caustics or corrosives, its form being inconvenient for use, and the great volatility of the alkali rendering its action uncertain.

Muricidane.—We fear the remorseless application of our shears to your letter would mutilate that same in its most tender part; at any rate in the part which you wrote with the most paternal affection.

W. S. J.—The retail price books of the Birmingham, Glasgow and Liverpool Chemists' Associations are all sold, we believe, at 1s. each, and you will most likely be able to obtain them from the secretaries, Mr. W. Jones, 22 Great Lister Street, Birmingham; Mr. J. M. Fairlie, 17 St. George's Cross, Glasgow; Mr. D. Wharrie, 50 Berry Street, Liverpool.

Vigil will feel obliged for information of a solution of iodine recommended for the revival and growth of seeds, also mode of preparation, &c., and how applied.

Vigil will also be glad to learn how to clear spts. turpentine, supposed to be coloured from rust in the can, filtering through animal charcoal not being effectual.

Anna Liffey (Dublin) is at a loss to see on what principle pharmaceutical chemists in England are exempt from jury service, and chemists and druggists not so. There is no duty, so far as he knows, that pharmaceutical chemists are entitled to perform that chemists and druggists are not; why, then, the distinction? When the exemption was granted there was no official register of chemists and druggists, consequently it was impossible to extend the privilege beyond pharmaceutical chemists, who could be defined. Since the formation of the register the exemption has been more than once promised to all chemists and druggists, but neither of the bills containing that clause have been passed.

The Secretary of the Chemists' Association, Deutsbury.—We are not aware of any law by which you can "put down" such a business as you refer to. If you can prove that any of the preparations contain one of the poisons named in the schedule of the Pharmacy Act you can give information to the Pharmaceutical Council, with whom lies the power of claiming the penalty. Most of the preparations are liable to medicine stamps, and (presuming such are not attached) the seller is liable to heavy penalties, which the Board of Inland Revenue only can prosecute for. Lastly, it may be that the proprietor of the Herbal Medicine Stores might be prosecuted, under the Apothecaries' Act, by the Apothecaries' Society, if he has given medical advice. Such, at least, is the monstrous claim lately set up by a section of the medical profession.

Belladonna.—*Tinctura Saponis et Opii*, vulgo *Linimentum anodynum* (Edinb.) Hard soap, sliced, four; opium, one; camphor, two ounces; oil of rosemary, half an ounce; alcohol, two pounds. We presume this is what you require, but could give you more information did we know the circumstances under which you made acquaintance with the name. There are several tinctures of soap: one in the Paris Codex, from the formula—Castile soap, 100; potass. carb., 5; Alcohol (60°), 500.

Juvenile.—Our September number of each year gives all necessary particulars concerning the examinations. You will also find the official regulations in the Calendar of the Pharmaceutical Society, published at 17 Bloomsbury Square.

Staffordshire asks if some Lancashire chemist will kindly inform him, through this journal, what is meant by black beer, how it is made, and how retailed.

Associate in Arts.—There is nothing very original in your suggestion that chemists shall not prescribe and doctors shall not dispense, but it would be hardly worth while for us to occupy space with dissertations on the advantages connected with such a condition of affairs. You must have spent your Easter in Laputa.

J. B. wishes to know whether a person, not being connected with the Pharmaceutical Society, may publicly use the title "pharmacien," on the ground that he sells French medicines. The Pharmacy Act, 1868, does not prohibit such assumption. It provides for the protection of the titles chemist and druggist, chemist, druggist, pharmaceutical chemist, pharmacist, and pharmacist: but it adds that nothing in the Act is to prevent any person from liability to any other penalty to which he would have been subject if this Act had not passed. The Pharmacy Act of 1862 (which is therefore still in force as far as its penal clauses go) declares (§ xii.) that "if any person, not being duly registered under this Act, shall assume or use the title of pharmaceutical chemist or pharmacist, or shall use, assume, or exhibit any name, title, or sign, implying that he is a person registered under this Act," he shall be liable to a penalty of 5*l.* The trial of such a case would be interesting, and we cannot guess which way the verdict would go. As a mere question concerning the English language, we confess we are doubtful whether the use of the term could be said to "imply" association with the society, though we have no doubt it would lead to such a belief in the minds of the half-instructed public.

Mr. J. Barker Smith.—We must decline to continue further the discussion on co-operation from a metaphysical point of view, as you treat it, especially as you bring in subjects which might raise discussions quite foreign to our business.

J. H. B.—You may not use the title "druggist" unless you get on the register, and you can only get on the register by passing the Minor Examination.

R. H.—To detect grape and cane sugar in glycerin, mix 5 drops of glycerin with 100 to 120 drops of water, 1 drop of nitric acid, and half a grain molybdate of ammonia, and heat. If sugar is present, the mixture turns to an intensely blue colour.

Resolvent Ointment.—The following ointment is employed at the Hotel Dieu with great success, by Dr. Noel Guéneau de Mussy:—

	Parts
Camphor	1
Chlorhydrate of Ammonia	4
Lard	30